



**Regional Planning Grant for the Development  
of an IRWM Plan for the  
Upper Sacramento-McCloud-Lower Pit Region  
(Upper Sac)**



Middle Falls of the McCloud River

[www.markgibsonphoto.com](http://www.markgibsonphoto.com)

September 28, 2010

The River Exchange | P.O. Box 784 | Dunsmuir, CA 96025 | [www.riverexchange.org](http://www.riverexchange.org)

## Table of Contents

Background .....	03
Task List Overview .....	09
Work Plan .....	12
TASK 1 Develop RWMG, RAP & Planning Grant Proposal .....	14
TASK 2 Project Administration & Management .....	16
TASK 3 Stakeholder/Institutional Involvement & Integration .....	22
TASK 4 Governance & Integration .....	27
TASK 5 Coordination .....	30
TASK 6 Region Description & Resource Integration .....	33
TASK 7 Objectives .....	35
TASK 8 Resource Management Strategies (RMS) .....	37
TASK 9 Relation to Local Water Planning .....	38
TASK 10 Relation to Local Land Use Planning .....	39
TASK 11 Climate Change .....	41
TASK 12 Project Review Process & Integration .....	45
TASK 13 Impacts and Benefits .....	48
TASK 14 Plan and Project Performance and Monitoring .....	49
TASK 15 Data Management & Integration .....	51
TASK 16 Finance .....	53
TASK 17 Technical Analysis .....	54
TASK 18 Prepare IRWMP Document .....	55
Attachments	
Attachment 1: Authorizing Documentation	
Attachment 2: Eligible Applicant Documentation	
Attachment 3: BMS Questionnaire	
Attachment 4: Budget	
Attachment 5: Schedule	
Appendix	
Letters of Support	

## BACKGROUND UPPER SAC IRWM REGION

### Introduction

The Upper Sacramento-McCloud-Lower Pit (**Upper Sac**) IRWM Region was approved through the Department of Water Resources (**DWR**) Regional Acceptance Process (**RAP**) in January 2010. As a newly approved region, we do not have an existing IRWM Plan and are applying for a grant to develop an IRWM Plan. The Work Plan tasks (below) describe how we will meet the current IRWM Plan Standards.

The Upper Sacramento, McCloud and Pit Rivers are part of the Sacramento River Hydrologic Unit. The area of the Upper Sac region is 2,026 square miles. Our region is located in a very rural, sparsely populated area of southern Siskiyou County and northern Shasta County. The majority of the estimated 13,000 people in the region reside in Siskiyou County. The region is relatively small and unpopulated but encompasses the headwaters of the Sacramento River and provides the critical resources of water supply, high quality drinking water, hydroelectric power, and watershed, forest, and fisheries management to a large portion of the State via the Sacramento River and Shasta Lake reservoir, keystone of the Central Valley Project. Integrated upstream watershed management will protect the water supply and water quality feeding the river and reservoir, which is critical to the rest of the state.

The communities of the Upper Sac, McCloud and Pit have been economically depressed since the downturn in the forest products industry in Northern California in the 1980's. All of Siskiyou County is part of a State Enterprise Zone, and current unemployment in the county is 15.9%. In Shasta County, current unemployment is 15.6%. (*July 2010 Preliminary Data* <http://www.labormarketinfo.edd.ca.gov>). According to the 2000 Census, Siskiyou County had a median income of \$31,082. Eighty percent of the statewide median income of \$48,440 is \$37,994, so the county median income is well below the qualification for Disadvantaged Community (**DAC**) status. The majority of the communities in the region have median incomes below 80% of the state average, which places them in the Targeted Income Group for most federal grant programs (see Table 1) and the entire region falls within the definition for a DAC. For this reason, any groups that represent general community interests are representing disadvantaged communities as well.

**Table 1**

Upper Sac Region Communities Median Household Income (MHI) in 1999 dollars; all communities are disadvantaged, two highlighted communities are severely disadvantaged

<i>City/Community</i>	<i>County</i>	<i>Area Population</i>	<i>Zip Code</i>	<i>MHI</i>
Dunsmuir	Siskiyou	2,593	96025	23,583
McCloud	Siskiyou	1,582	96057	31,331
Mount Shasta	Siskiyou	7,295	96067	32,933
Kinyon	Siskiyou	No data	No data	No data
Bartle	Siskiyou	No data	No data	No data
Castella	Shasta	222	96017	31,250
Lakehead	Shasta	1,228	96051	36,219
Big Bend	Shasta	260	96011	23,250
Crag View	Shasta	No data	No data	No data
Pollard Flat	Shasta	No data	No data	No data

Source: [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en)

Development of an IRWM Plan for the Upper Sac region will meet the statewide priority of ensuring equitable distribution of benefits by increasing the participation of small and disadvantaged communities in the IRWM process. The Upper Sac IRWM Plan will work to include projects that address safe drinking water and water quality needs of our disadvantaged communities and Tribes in our region and downstream (Tasks 3, 12).

A salient example of the critical needs of our small communities is the fact that the California Regional Water Quality Control Board has given the City of Dunsmuir until December 2011 to make improvements at the wastewater treatment plant to alleviate the sewage overflows into the Upper Sacramento River from inflow and

infiltration (Mount Shasta News 9/15/10). In addition, Mount Shasta has problems with leakage and pressure and McCloud struggles to fund upgrades of their water delivery and treatment infrastructure. There is also significant concern that as FEMA redraws floodplain maps, the new maps will affect the affordability of insurance for fixed income residents, especially in McCloud and Dunsmuir. Integrated Regional Water Management should help address these critical needs.

The region's rural nature and status as a DAC result in its local agencies being small, with minimal staff and resources. While unusual for the IRWM process, the non-profit sector took the lead role in establishing the RWMG and pursuing participation in the IRWM process, because of their ability to allocate staff and resources, paired with their experience managing significant grants. Thus, The River Exchange and the Mt. Shasta Area Office of California Trout were responsible for developing the RAP, and initiated the RWMG (Task 1).

The IRWM process will provide the small number of local agencies with a forum that currently does not exist to work collaboratively on the issues that impact all agencies, including water supply reliability, water quality, environmental stewardship and flood management. A well-managed and healthy watershed is a tremendous economic benefit to its communities. Watershed health plays an important role in economic viability in the region. The majority of the region's economy depends on a healthy watershed, which supports agriculture, forestry, tourism, recreation and fisheries. The development of an IRWM Plan will play an important role in helping the region regain more solid economic footing—a significant benefit.

### **Region Description Overview**

The Upper Sac Region includes the entire Upper Sacramento River and McCloud River watersheds, from their headwaters until their confluence with Shasta Lake. The region also includes the lower portion of the Pit River from Pit # 3 Dam (excluding Lake Britton) to Shasta Lake. The western and northern boundaries of the region are contiguous with the North Coast IRWM boundary, and the northeastern boundary extends to the Siskiyou County line. The region then continues into northeastern Shasta County, drops below Lake Britton, and encompasses the Lower Pit River watershed, excluding Bear Creek, from below Lake Britton to Shasta Lake. The southern boundary of the region is where the three rivers enter Shasta Lake. Please refer to the region map submitted with the RAP proposal. Task 5.2 will confirm both the region boundaries and groundwater basins with the Upper Pit region for inclusion in Task 6.

The northern portions of the region fall within the political jurisdiction of Siskiyou County and the southern half of the region lies in Shasta County. Approximately one-half of the land in the region is owned and managed by the U.S. Forest Service and is part of the Shasta-Trinity National Forest. The majority of the remaining land in the region is owned by Roseburg Forest Products (family owned corporation), Sierra Pacific Industries (family owned corporation), Union Pacific Railroad (publicly held corporation), Pacific Gas and Electric (publicly held investor owned utility) and the Hearst Corporation (publicly held corporation).

Several other non-corporate entities also own and manage large tracts of land in the region, including Westlands Water District, The Nature Conservancy and California State Parks (Castle Crags State Park). There are two incorporated cities in the region (Mt. Shasta and Dunsmuir), and one significant area covered by a Community Services District (McCloud). There are numerous other community service areas (Lakehead, Castella, etc.), but these are all quite small, as the population of the entire region is only a little more than 13,000 people.

The region is dominated by fractured rock (volcanic) geology and groundwater emerges as springs that feed the region's rivers. The only defined groundwater basin in the region is the McCloud Area Groundwater Basin Number 5-35 described in the DWR Bulletin 118. The entire basin is within Siskiyou County. The surface area of the basin is 21,320 acres (33 square miles).

All three of the major rivers in the region (the Upper Sac, McCloud and Lower Pit) have rainbow trout fisheries that are unique in number and size, and are highly-prized by the sport fishing community. None of the rivers are currently listed as impaired water bodies, although there are some turbidity issues in the McCloud and Lower Pit

from upstream flows and reservoir run-off, particularly in heavy runoff conditions. Wastewater along the Upper Sacramento and McCloud are also a concern as infrastructure ages and local agencies face fiscal shortfalls that make it difficult to maintain and upgrade facilities.

### *Major Water-Related Infrastructure in the Region*

Box Canyon Dam/Lake Siskiyou Reservoir captures water from Mt. Shasta's springs and from surface water flowing from the northwestern portion of the Upper Sacramento watershed. The dam produces small quantities of hydroelectric power. Siskiyou County owns the dam, but currently leases out its operation and output to Ridgewood Renewable Power, LLC. As this lease expires in December 2010, the County is currently reviewing the options of either putting the lease back out to bid or taking over operations of the facility.

Pacific Gas and Electric Corporation own and operate two Federal Energy Regulatory Commission (FERC) licensed hydroelectric power projects within the IRWM region. The McCloud-Pit Project (FERC #2106) consists of McCloud Dam and Reservoir, a 7.2 mile long, 1,000 cubic feet per second (cfs) diversion tunnel to Iron Canyon Reservoir, James B. Black Powerhouse on the Pit River and Pit 6 and Pit 7 dams. This project has a capacity of 364 MW, one of PG&E's largest in the state, and is currently in the process of FERC relicensing with a new license due to be issued in July 2011. PG&E's other FERC licensed hydroelectric project within the IRWM region is the Pit 3,4, and 5 Project (FERC #233). This project consists of Pit 3 dam and powerhouse, Pit 4 dam and powerhouse, and Pit 5 dam and powerhouse. This project has a capacity of 325 MW and received a new FERC license in 2006.

The region lies within the jurisdiction of the Central Valley Regional Water Quality Control Board and Region 5 of the State Water Resources Control Board. The office that serves the region is located in Redding, California. For additional regional information, please see our RAP (Task 1). The region description process is described in Task 6 of this proposal.

### **History of Efforts in the Region that relate to the development of the IRWM Plan**

Much of the groundwork for an IRWM planning effort in the region has already been laid through the work of other collaborative processes - many of which are either specific tasks in the Work Plan below, or will be used as background documents to address specific tasks in the proposed Work Plan (see summary in Table 2 below).

Examples of such collaborative processes in the McCloud watershed are the McCloud CRMP, the Redband Trout Conservation Agreement and the FERC relicensing process, all of which will serve as strong building blocks to facilitate integrated regional water management. In the Upper Sacramento watershed, The River Exchange, in partnership with a diverse group of stakeholders, recently completed a Watershed Assessment and Management Strategy - funded under the DWR CALFED Bay-Delta Program. In the McCloud and Lower Pit watersheds, diverse stakeholders are currently involved in the FERC relicensing process.

Recognizing the need for a County Water Strategy, in December 2008, Siskiyou County hired a water resources consultant who prepared a bibliography of available sources related to the Upper Sac and McCloud's hydrology, water quantity, water quality, flood control and water management. The consultant held a listening meeting in the watershed to identify water issues and critical areas requiring fact-finding with pertinent people knowledgeable about local water resource issues and information sources (Task 6). The consultant also described the county's current water-related strategies and applicable state and federal water-related laws, regulations, and programs relating to the county's water resources (Task 9).

Community interest in sharing information and participating in water-related issues is clear from the success of the collaboratively created Upper Sacramento Watershed Assessment and Management Strategy, as well as continued growth in participation in the Siskiyou Water Network (a platform for information sharing and collaboration across various groups and interests), and high attendance at a series of recent educational "Water Talks" (an ongoing series of informational and educational events with local and regional expert presenters sharing on a range of water

related topics) presented by various local agencies, non-profits and educational institutions. These existing platforms for outreach and public involvement will be utilized in Task 3, Stakeholder Involvement.

All of this work, and the interactions of various stakeholders that it requires, has laid substantial groundwork for moving forward with preparing an IRWM Plan for the region.

**Table 2**

Summary of regional efforts known at this time that should support the development of the Upper Sac IRWM Plan

<b>IRWM related efforts</b>	<b>Responsible Party</b>	<b>Date</b>	<b>Associated Work Plan Task</b>
Timber Harvest Plans	US Forest Service, Sierra Pacific Industries, Roseburg, others	Ongoing	Task 6, 8, 15
Water System Master Plan	McCloud Community Services District (MCSD)	2010	Task 9, 12
Water System Master Plan	City of Mount Shasta	Update in Progress 2010	Task 9, 12
Sewer Master Plan	City of Dunsmuir	2007	Task 9, 12
County Water Strategy	Siskiyou County	December 2008-current	Task 6, 9, 10
Dam Relicensing: Pit 3,4,5 Project #233	Federal Energy Regulatory Commission (FERC)	July 1999 - 2006	Task 6, 15
Dam Relicensing: McCloud -Pit Project (#2106)	Federal Energy Regulatory Commission (FERC)	July 2006 - July 2011	Task 6, 15
County Water and Sewer Assessment	Siskiyou County	January 2008	Task 6, 9, 12
Upper Sacramento Watershed Assessment & Mgmt. Strategy	The River Exchange	June 2010	Task 6
Water, Climate Change and Forests Report	US Forest Service	June 2010	Task 5, 6, 8, 11,
McCloud Assessment Roadmap	The River Exchange	June 2006 - March 2007	Task 6, 8, 10, 12
McCloud Springs Mapping and Investigation	The River Exchange	June 2008 - July 2009	Task 6
McCloud Springs Restoration Design	The River Exchange	June 2010 - present	Task 12
Mount Shasta Springs and Groundwater Investigation	California Trout	2007 - current	Task 6, 11
Draft Redband Trout Conservation Agreement	Dept. of Fish and Game	2007	Task 6, 8
McCloud Coordinated Resources Management Plan (CRMP)	McCloud CRMP Group	July 1991 - current	Task 6, 8
Climate Change Watershed Vulnerability Assessment	Shasta Trinity National Forest	February - October 2010	Task 6, 11
Lower McCloud River Watershed Analysis	Shasta Trinity National Forest	March 1998 Update in Progress	Task 6
McCloud Arm Watershed Analysis	Shasta Trinity National Forest	May 1998	Task 6
Local Watershed Programs and NPS program Activities	Central Valley Regional Board (CVRWQCB)	July 2010	Task 6, 7, 8, 12

Northern Region 5 Watersheds and 303(d) Listed Waters			
Squaw Valley Creek Investigation	Nestle Waters North America	October 2008 - October 2010	Task 6, 12, 15
McCloud River Preserve research and monitoring report	The Nature Conservancy	1996 - current	Task 6, 15
Siskiyou Water Network	California Trout	2005 - current	Task 3
Water Talks educational series	California Trout	2008 - current	Task 3
Biological Opinion re: Central Valley Project/State Water Project (CVP/SWP) (Shasta Dam)	National Oceanic and Atmospheric Association (NOAA)	June 2009	Task 5, 12 (integration)
Investigating climate and fish stocking regime as drivers of water quality, food web interactions, and ecosystem productivity	Castle Lake Environmental Research and Education Program (CLEREP)	June 2007 - present	Task 6, 11
California Water Plan Update 2009 Regional Tribal Water Plenary Meeting #7 Far Northern California Waters Meeting Summary and Mind Map	DWR Tribal Communications Committee (T.C.C.), hosted by the Shasta Indian Nation	June 13 <sup>th</sup> 2009	Task 3, 6, 7
Eastern Shasta County Groundwater Study	Department of Water Resources	June 1984	Task 6

### Regional Water Management Issues and Conflicts

There are a host of water management issues and challenges that characterize the region, many of which are common to all of the region's watersheds. Thanks to the efforts described above, there is a new level of awareness within the region about these challenges, and the opportunities in addressing them. Detailed lists of issues were gathered at the Siskiyou County Water Strategy meeting June 29, 2009, and at the Regional Tribal Water Plenary meeting on June 13, 2009. Additional issues were identified in the Upper Sacramento Watershed Assessment completed June 2010. Together, these lists will serve as a starting point for water conflict and issue identification during the IRWM planning process. The issues will also be considered during development of the region description, plan objectives, resource management strategies and possible projects (Tasks 4, 6, 7, 8, 12). They include but are not limited to:

- aging and inefficient municipal water supply and water treatment infrastructure;
- lack of resources to adequately maintain facilities that results in threats to drinking water supplies for disadvantaged communities and communities downstream;
- water quality issues from Publicly Owned Treatment Works (POTW) discharging to the rivers;
- water quality issues from abandoned mines;
- leases for geothermal exploration and development;
- proposed raise of Shasta Dam;
- production of hydroelectric power;
- precipitation enhancement;
- potential water transfers;
- out-of-basin water export from bottled water plants;
- forest practices management on both public and private lands, including abandoned logging roads, lack of road maintenance funds and associated sediment issues, erosion issues, recreation use and conflict, motorized travel management, and off-road vehicle use;

- forest fuels management to reduce catastrophic forest fire risk and resultant potential risk of sediment loading and destruction of habitat;
- impacts of climate change on snow pack, mud and debris flow hazards, and the condition of Mt. Shasta's glaciers;
- lack of scientific understanding or baseline data for springs, groundwater basins or surface waters;
- protection of historic sites and Traditional Cultural Properties;
- reintroduction of McCloud River Salmon and other native species;
- tension over land and resource management and governmental regulations (ESA, CEQA, NEPA, etc.); and
- lack of trust between the region's stakeholders.



## UPPER SAC IRWMP TASK LIST OVERVIEW

### **TASK 1 Develop RWMG, RAP & Planning Grant Proposal**

- Task 1.1 Initial Regional Water Management Group (RWMG) outreach
- Task 1.2 Develop Regional Acceptance Proposal (RAP)
- Task 1.3 Develop Planning Grant Proposal

### **TASK 2 Project Administration & Management**

- Task 2.1 Project Administration
  - Task 2.1.1 Negotiate contract with DWR
  - Task 2.1.2 Contract Lead Consultant
  - Task 2.1.3 Est. project & financial mgmt. policies, procedures & systems
  - Task 2.1.4 Est. DWR-compliant invoicing policies, procedures & systems
  - Task 2.1.5 Administration of project (including reporting to DWR) by REX
- Task 2.2 Project Management
  - Task 2.2.1 IRWM Plan Preparation
  - Task 2.2.2 Overall Project Management by REX
  - Task 2.2.3 Plan facilitation by Center for Collaborative Policy

### **TASK 3 Stakeholder/Institutional Involvement & Integration**

- Task 3.1 Identify additional stakeholders
- Task 3.2 Implement a process to ensure diverse participation
- Task 3.3 Recruit participation by additional stakeholders
- Task 3.4 Outreach to Disadvantaged Communities (DACs) and Tribal Communities
- Task 3.5 Stipends for DACs and Tribes
- Task 3.6 Implement communication strategy
- Task 3.7 Public Involvement
- Task 3.8 Develop, review, revise & finalize Stakeholder section

### **TASK 4 Governance & Integration**

- Task 4.1 Governance during plan development

- Task 4.1.1 Draft governance with RWMG
- Task 4.1.2 Identify water issues and conflicts
- Task 4.1.3 Implement a process for balanced access and opportunity for participation
- Task 4.1.4 Create and finalize IRWM Plan Development MOU

- Task 4.1.5 Set meeting schedule for plan development

### **Task 4.2 Governance during plan implementation**

- Task 4.2.1 Define governance and decision making for plan implementation
- Task 4.2.2 Define long-term implementation strategies
- Task 4.2.3 Define process for updating the plan
- Task 4.3 Develop, review, revise & finalize Governance section

### **TASK 5 Coordination**

- Task 5.1 Identify process for coordination within the IRWM Region
- Task 5.2 Interregional coordination with neighboring & regional IRWMPs
  - Task 5.2.1 Kick-off meeting for interregional coordination
  - Task 5.2.2 Conduct two additional regional workshops
  - Task 5.2.3 Ongoing support of regional workshops
- Task 5.3 DWR Sacramento Funding Area Work Group
- Task 5.4 Develop process and procedures for coordinating with state, federal, and local agencies
- Task 5.5 Develop, review, revise & finalize Coordination section

### **TASK 6 Region Description & Resource Integration**

- Task 6.1 Collect and evaluate existing data
- Task 6.2 Catalog data gaps
- Task 6.3 Develop strategy for filling data gaps and ensuring data compatibility for integration
- Task 6.4 Generate actual Region Description
- Task 6.5 Develop, review, revise & finalize Region Description section

## **TASK 7 Objectives**

- Task 7.1 Initiate process for development of objectives
- Task 7.2 Develop initial draft objectives and measurement criteria
- Task 7.3 Review and comment on draft materials
- Task 7.4 Develop, review, revise & finalize Objectives section

## **TASK 8 Resource Management Strategies (RMS)**

- Task 8.1 Initial development and review of RMS list
- Task 8.2 Define process for determining which RMS to adopt
- Task 8.3 Develop, review, revise & finalize RMS section

## **TASK 9 Relation to Local Water Planning**

- Task 9.1 Compile list of local water plans
- Task 9.2 Determine how the IRWM Plan will integrate with local water plans, programs, and agencies
- Task 9.3 Develop, review, revise & finalize Local Water Planning section

## **TASK 10 Relation to Local Land Use Planning**

- Task 10.1 Determine current level of integration between local land use planning and regional water management
- Task 10.2 Develop process to foster communication and collaboration between land use managers and the RWMG
- Task 10.3 Develop, review, revise & finalize Local Land Use Planning section

## **TASK 11 Climate Change**

- Task 11.1 Climate research and monitoring
- Task 11.2 Collect and compile existing data
- Task 11.3 Determine regional vulnerabilities
- Task 11.4 Identify adaptive management strategies
- Task 11.5 Develop, review, revise & finalize Climate Change section

## **TASK 12 Project Review Process & Integration**

- Task 12.1 Create preliminary project review process (including criteria, consideration of integration, environmental compliance and tribal notification)
- Task 12.2 Prepare project application materials
- Task 12.3 Contract support for DACs and Tribes to assess needs and submit competitive project proposals
- Task 12.4 Finalize project review process
- Task 12.5 Select list of projects for inclusion in Plan
- Task 12.6 Develop, review, revise & finalize Project section

## **TASK 13 Impacts and Benefits**

- Task 13.1 Evaluate impacts and benefits listed in other IRWM Plans
- Task 13.2 Identify impacts and benefits of plan implementation
- Task 13.3 Draft, review, revise & finalize the Impact/Benefit section

## **TASK 14 Plan & Project Performance and Monitoring**

- Task 14.1 Collect and evaluate performance measures from existing IRWM Plans
- Task 14.2 Develop initial performance measures for IRWM Plan implementation
- Task 14.3 Develop initial performance measures and monitoring protocols for project implementation
- Task 14.4 Finalize performance measures for both plan and project implementation
- Task 14.5 Develop, review, revise & finalize Performance and Monitoring section

## **TASK 15 Data Management & Integration**

Task 15.1 Develop process for data collection

Task 15.2 Determine data storage and dissemination system

Task 15.3 Develop process and procedure to ensure data  
compatibility and integration

Task 15.4 Develop, review, revise & finalize Data section

## **TASK 16 Finance**

Task 16.1 Research available funding sources

Task 16.2 Develop fundraising and financing plan

Task 16.3 Develop, review, revise & finalize Finance section

## **TASK 17 Technical Analysis**

Task 17.1 Document the data and technical analyses that were  
used to develop the plan

Task 17.2 Evaluate adequacy of data and technical analyses that  
were used to develop the plan

Task 17.2 Develop, review, revise & finalize Technical Analysis  
section

## **TASK 18 Prepare IRWMP Document**

Task 18.1 Prepare Draft of IRWM Plan

Task 18.2 Finalize IRWM Plan

Task 18.3 Attempt to adopt IRWM Plan

## WORK PLAN

### Introduction

The Work Plan tasks below describe the process by which we will design and assemble an IRWM Plan for the Upper Sac region. Integration will occur at all levels of plan development from the interpersonal interactions within the RWMG to the integration of tasks within the Work Plan. It should be noted that the development of the plan is not considered a project as defined in PRC 21065, and is not subject to CEQA review. Any projects that are identified and included in the plan, will have project specific CEQA requirements listed in the Impacts and Benefits (Task 13) and Project Review Process (Task 12) sections of the plan.

Overall plan development and integration will be overseen and managed by a Lead Consultant. To prepare an IRWM Plan for the Upper Sac Region that meets the current DWR IRWM Plan standards, the following process is proposed to complete each section of the plan:

Depending on the specific task, the Lead Consultant or Project Director will be responsible for being the lead author of that section of the plan. The lead author will complete the initial information gathering and fact finding needed to construct the section. The lead author of the task will attend all of the appropriate subcommittee and **Coordinating Committee (CC)** meetings. Each section will be constructed by bulleting the aspects deemed by meeting participants to be necessary for inclusion in the plan – based on the IRWM Guidelines. The task author will expand the bulleted list into an outline and expand the outline based on CC and applicable subcommittee discussions. The process of drafting content as topics are discussed is intended to help uncover and resolve potential disputes early in the process.

The designated section author will write the first draft of the section. If that section has a subcommittee, they will approve the material before it is taken by the author to the CC. The CC will review the section for technical accuracy and confirm that the content gathered meets all of the IRWM Plan standards. Then the section will be available for both public and RWMG review. The draft will be uploaded to the Upper Sac IRWM website (Task 3.6). An email will be sent to the RWMG, other stakeholders and interested parties to announce the availability of the draft section for review. A hard copy or DVD of the section will be mailed to any stakeholder or agency that requires it, based on potential lack of access to the Internet. The RWMG members will be responsible for soliciting input from the stakeholders they represent.

The authors will gather public and RWMG input and synthesize it into a finalized section. A process will be determined for resolving any possible conflicting comments; perhaps the section author will take the question to the CC. The section would then be brought to the RWMG for final approval via the to-be-determined RWMG decision-making process and governance structure. The main objective for this process is to facilitate incremental adoption of a plan, which has incorporated RWMG and public input. This is meant to avoid reaching the end of the planning period and overwhelming RWMG members with the review of the entire document, plus, each section will be useful to the region as it is approved. Additionally, this process should facilitate adoption of the entire plan. The final plan will be available on the website and hard copies or DVDs will be produced and mailed to all RWMG members, agencies and libraries in the region.

The budget for this process is divided among Task 2 (Project Management), Task 3 (Stakeholder Involvement), Task 4 (Governance and Integration) and Task 18 (Prepare IRWMP Document).

**Table 3**

Quick reference to where Work Plan addresses Program Preferences and Statewide Priorities

<b>Program Preference/Statewide Priorities</b>	<b>Task Number</b>	<b>Page Number</b>
<b>Program Preferences</b>		
Regional projects or programs	9.2, 12, 18.2	39, 45, 56
Integrate water management programs within hydrologic region	5.4, 15.1	32, 51
Resolve significant water-related conflicts within or between regions	3.6, 4, 18.2	22, 27, 56
Water quality, water supply and ecosystem restoration objectives of CALFED Bay-Delta Program	12	45
Address critical water supply or water quality needs of disadvantaged communities within the region	12	45
Integrating water management with land use planning	9, 10	38, 39
<b>Statewide Priorities</b>		
Drought Preparedness	11, 12	41, 45
Use and Reuse Water More Efficiently	12	45
Climate Change Response Actions	11	41
Expand Environmental Stewardship	4, 12	27, 45
Practice Integrated Flood Management	11, 12	41, 45
Protect Surface Water and Groundwater Quality	12	45
Improve Tribal Water and Natural Resources	6, 12	33, 45
Ensure Equitable Distribution of Benefits	3, 4, 6, 12	22, 27, 33, 45

**Table 4**

Quick reference to where Work Plan addresses Program IRWM Plan Standards

<b>IRWM Plan Standard</b>	<b>Task #</b>	<b>Page #</b>	<b>IRWM Plan Standard</b>	<b>Task #</b>	<b>Page #</b>
Governance	4	27	Data Management	15	51
Region Description	6	33	Finance	16	53
Objectives	7	35	Technical Analysis	17	54
Resource Management Strategies (RMS)	8	37	Relation to Local Water Planning	9	38
Integration	3, 4, 6, 12, 15	22, 27, 33, 45, 51	Relation to Local Land Use Planning	10	39
Project Review Process	12	45	Stakeholder Involvement	3	22
Impact and Benefit	13	48	Coordination	5	30
Plan Performance and Monitoring	14	49	Climate Change	11	41

## **DEVELOP RWMG, RAP AND PLANNING GRANT PROPOSAL - TASK 1**

**The River Exchange (REX)** and **California Trout (CalTrout)** have been involved in educating stakeholders about IRWM and soliciting participation in the RWMG since early 2009. In developing the RAP, the organizations were in contact with representatives of the now approved Upper Pit Region, the Northern Sacramento Valley Region and the North Coast Region to ensure that our region covered substantial portions of excluded areas and possessed congruent regional boundaries. REX and CalTrout submitted the RAP on behalf of the Upper Sac region in April 2009, and held the first meeting of the RWMG in February 2010, to announce acceptance as a region. In August 2010, the second meeting of the RWMG was held to determine the applicant for the planning grant. REX, with extensive organizational experience in implementing and administering state grant awards, was chosen by the RWMG to be the applicant for the region.

In developing the planning grant proposal coordination occurred with RWMG members, DWR and CVRWQCB staff, adjacent regions (North Coast, North Sac Valley, and Upper Pit) as well as with the CABY and Inyo-Mono regions.

### **Task 1.1 Initial RWMG outreach**

One of the advantages of working in a region that is sparsely populated and contains large swaths of largely undeveloped land is that it is fairly easy to identify the appropriate entities that are essential to a truly representative RWMG. Also, most individuals working on water-related issues in the region know each other from past collaborations and have established working relationships. Grassroots efforts are the basis of a lot of work in the region.

We have had significant success in recruiting members to the newly formed RWMG. A solicitation letter was sent to the initial list of identified stakeholders and follow up phone calls were made as needed. Presentations regarding the IRWMP and RWMG were given at Mount Shasta City, McCloud Community Services District, City of Dunsmuir and Siskiyou County meetings. To date the following entities have agreed to participate in the RWMG:

#### *Municipal Governments and Agencies with Statutory Authority (SA)*

- The City of Dunsmuir (SA)
- The City of Mount Shasta (SA)
- McCloud Community Services District (SA)
- U.S. Forest Service, Shasta-Trinity National Forest (SA)
- U.S. Fish and Wildlife Service, Red Bluff office (SA)
- California Department of Fish and Game, Redding office (SA)

#### *Tribes*

- Winnemem Wintu Tribe – local Native American tribe with ancestral lands in both the Upper Sacramento and McCloud watersheds.

#### *Private Companies and Landowners*

- Roseburg Forest Products – large private landowner in the Upper Sacramento watershed (family-owned corporation)
- The Campbell Group – large private landowner in the McCloud River watershed
- Sierra Pacific Industries – large private landowner in the McCloud River and Upper Sacramento River watersheds (family-owned corporation)
- Pacific Gas and Electric Corp (PG&E) – utility with hydroelectric power facilities in the McCloud and Lower Pit River watersheds

- The Nature Conservancy – McCloud River Preserve
- McCloud CRMP (group of agencies and private landowners in the McCloud watershed including Hearst Corporation, Sierra Pacific Industries, Crane Mills, CalTrout, The Nature Conservancy, McCloud River Club, Pacific Gas and Electric Corp., Hancock Natural Resources Group, Department of Fish and Game, and the State Water Resources Control Board)

#### *Resource Conservation Districts*

- Shasta Valley Resource Conservation District – special district representing agricultural interests and natural resource users
- Western Shasta RCD – special district representing agricultural interests and natural resource users

#### *Non-Profit Organizations*

- McCloud Watershed Council– represents the interests of residents of the McCloud River watershed, Shasta Forest, and Squaw Valley Creek, with special emphasis on economic development and representing disadvantaged communities (DACs)
- Mt. Shasta Area Audubon – conservation organization
- California Trout – watershed stewardship and conservation and fishing group
- Mt. Shasta Trail Association – representing outdoor recreation interests
- Sierra Club, Mother Lode Chapter, Shasta Group – representing environmental interests
- Mt. Shasta Bioregional Ecology Center – environmental stewardship and environmental justice organization
- Siskiyou Land Trust – land conservation organization for the region
- The River Exchange – watershed stewardship organization

For development of the IRWM Plan, the RWMG will continue outreach efforts to solicit more participation from stakeholders who have already been contacted but have yet to respond, as well as new stakeholders (see Task 3 below). Potential new participants include but are not limited to: the Pit River Tribe, Redding Rancheria, Shasta Nation, the Modoc Tribe, Nomtipom individuals, Toyon Wintu, the Bureau of Reclamation, community water districts, College of the Siskiyous, Siskiyou County Economic Development Council, Cal Fire, Great Northern Corporation, the Jefferson Economic Development Institute, Westlands Water District, Nestle Waters North America, Coca Cola, Mount Shasta Water Company, The Saint Germaine Foundation (Shasta Springs) and Siskiyou County. Siskiyou County participated in the first two RWMG meetings. The county subsequently had concerns over the planning grant application, mostly related to governance. Siskiyou County will decide whether to participate in the RWMG after reviewing the final planning grant application. It should be noted that Shasta County has declined to participate as a member of the Upper Sac RWMG. We will continue to keep Shasta County apprised of the Upper Sac region's process. RWMG member roles, level of participation and governance structure will be developed as part of Task 4.

Budget: Initial RWMG outreach took 16 hours at \$50/hr by REX and CalTrout staff.

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
1.1		\$800	\$0	\$0	\$800

Deliverables: Initial RWMG outreach completed

Timeline: September 30, 2008 – April 30, 2009

### **Task 1.2 Develop Regional Acceptance Proposal**

Drawing upon knowledge of the region (Table 2) and past collaborations, REX and CalTrout wrote the RAP proposal and submitted it on behalf of the region. Adjacent regions were coordinated with to assure complementary region boundaries. A local GIS specialist created the region map and REX and CalTrout staff met with DWR in Sacramento to answer questions about the region. The Upper Sac region was accepted in January 2010.

Budget: 42 hours at \$50/hr for RAP development by REX and CalTrout staff = \$2,100. 4 hours at \$85/hr GIS region map development = \$340. Travel to Sacramento 400 miles at \$0.50/mile = \$200 = \$2,640 Total.

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
1.2		\$2,640	\$0	\$0	\$2,640

Deliverables: Completed RAP

Timeline: September 30, 2008– April 30, 2009

### **Task 1.3 Develop Planning Grant Proposal**

In developing the planning grant proposal REX and CalTrout staff coordinated with DWR and SWRQCB staff, RWMG members, adjacent regions (North Coast, North Sac Valley, Upper Pit) and with the CABY region and Inyo-Mono region. We attended meetings in Red Bluff and Sacramento to assist with the planning grant preparation. We held the first meeting of the RWMG in February 2010 to announce our acceptance as a region. In August 2010, the second meeting of the RWMG was held to determine the applicant for the planning grant.

Budget: 249 hours at \$50/hr for planning grant proposal development by River Exchange and 246 at \$50/hr for planning grant proposal development by CalTrout = \$24,750 in-kind match.

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
1.3		\$24,750	\$0	\$0	\$24,750

Deliverables: Completed IRWM planning grant proposal

Timeline: February 1, 2010 – September 28, 2010

## **PROJECT ADMINISTRATION & MANAGEMENT - TASK 2**

### **Task 2.1 Project Administration**

The River Exchange (REX) will be the applicant and the fiscal agent for the Upper Sac plan. REX received its 501(c)(3) status in 1996. Since that time, the organization has administered funds totaling roughly \$1.4 million. Most recently, REX administered and managed the \$314,000 Upper Sacramento Watershed Assessment funded through the DWR CALFED Bay-Delta Program and completed June 2010. The organization's current Executive Director has experience administering over \$32 million in state grant funds.



### ***Task 2.1.1 Negotiate Contract with DWR***

REX will negotiate the contract details with DWR, providing all requested details. Because the REX staff is experienced in the development of funding agreements, only minimal consultant assistance will be required. Consultant assistance will be focused on review to ensure that the contract meets the needs of the DWR and REX.

Budget estimate: 55 hours at \$50/hr for REX Executive Director's time and 3 hours at \$130/hr for consultant's assistance = \$3,140

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.1.1	\$3,140	\$0	\$0	\$0	\$3,140

Deliverables: Executed Grant Agreement

Timeline: January 17, 2011 – March 17, 2011; This timeframe is based on the date provided by DWR for the effective date of the grant agreement.

### ***Task 2.1.2 Contract Lead Consultant***

REX will solicit suggestions from the RWMG via email regarding possible Lead Consultants for the project. REX will develop and distribute a Request for Proposals (RFP) for the Lead Consultant. Proposals will be considered from firms with all the expertise required for the job in-house as well as those specifying who will be sub-contracted to meet the specific requirements of the RFP. The finalists will be interviewed by a panel of RWMG volunteers to ensure selection of a professional team, extremely capable of accomplishing this project. Once the Lead Consultant is selected, a consulting agreement will be developed that encompasses all of the scope in the Work Plan and budget to be accomplished.

Budget estimate: 60 hours at \$50/hr for REX Executive Director's time and 60 hours at \$50/hr for Project Director's time = \$6,000

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.1.2	\$6,000	\$0	\$0	\$0	\$6,000

Deliverables: Lead Consultant RFP generated & Lead Consultant Agreement executed

Timeline: February 1, 2011 – April 8, 2011; REX staff plans to work diligently to finalize the grant agreement with DWR while developing the RFP for the Lead Consultant in an attempt to bring on the Lead Consultant before the first important RWMG meeting in May 2011.

### ***Task 2.1.3 Establish Project and Financial Management Policies, Procedures and Systems***

REX will evaluate its existing administrative support systems and, as needed, reconfigure the system of policies, procedures, and supporting systems to enable the organization to successfully manage the project, from a financial management and scope compliance perspective.

Budget estimate: 14 hours at \$50/hr for REX Executive Director's time and 20 hours at \$50/hr for Project Director's time and 15 hours at \$35/hr for REX Finance Director's time and 20 hours at \$35/hr for REX Administrative Director's time = \$2,925

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.1.3	\$2,925	\$0	\$0	\$0	\$2,925

Deliverables: Established Policies, Procedures & Systems.

Timeline: March 21, 2011 – April 21, 2011; To occur once the contract with DWR is finalized.

***Task 2.1.4 Establish DWR-compliant invoicing policies, procedures, and systems***

Following completion of Task 2.1.3 above, REX will establish templates, electronic and paper filing systems, procedures, and systems for accurate and regular provision of both progress reports and invoices to DWR. These systems will be evaluated prior to submittal of the initial invoice to ensure accuracy, reliability, and consistent documentation.

Budget estimate: 12 hours at \$50/hr for REX Executive Director's time and 20 hours at \$50/hr for Project Director's time and 20 hours at \$35/hr for REX Finance Director's time and 20 hours at \$35/hr for REX Administrative Director's time = \$3,000

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.1.4	\$3,000	\$0	\$0	\$0	\$3,000

Deliverables: Established Policies, Procedures & Systems.

Timeline: March 10, 2011 – April 29, 2011; While the funding agreement is being finalized, REX will review its current policies and procedures to determine if any will need to be amended to meet Prop 84 funding requirements. REX currently meets CALFED Bay-Delta Program requirements regarding progress reports and invoicing DWR, but REX will update policies, procedures and systems to comply with the stipulations of the IRWM program, once the IRWM funding agreement has been executed.

***Task 2.1.5 Administration of Project (including reporting to DWR) by REX***

REX will work to ensure the project is completed on schedule and within the budget, while meeting the invoicing and reporting requirements of DWR. REX will have responsibility for administration of the entire project. Additionally, REX will administer the contracts of any team members contracted directly by REX. It will also be the responsibility of REX to administer the Lead Consultant's contract.

The Lead Consultant will be responsible for oversight and administration of any sub-consultants they contract. REX will require a monthly invoice and progress report from any contractors and the Lead Consultant, who will require the same from any sub-consultants. The required format for these materials will support development of REX's invoices to DWR. At minimum, the Lead Consultant will provide quarterly reports to REX, presenting the status of project elements, summarizing invoicing, and the overall relationship of identified deliverables plus their percent complete and the percent of funds invoiced. REX will provide reporting and invoicing to DWR monthly (or as required by the DWR funding contract). It is also the responsibility of REX to submit quarterly reports, final reports and other written documents to DWR per the funding contract.

Budget estimate: 2 hours/mo avg for 27 mo (24 mo grant + 3 mo admin after complete) at \$50/hr for REX's Executive Director and 10 hours/mo avg for 27 mo at \$50/hr for Project Director and 3 hours/mo avg for 27 mo at \$35/hr for REX Finance Director's time plus 12 hours/mo avg for 27 mo at \$35/hr for REX's Administrative Director = \$30,375

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.1.5	\$30,375	\$0	\$0	\$0	\$30,375

Deliverables: Invoices & Progress Reports from Lead Consultant, Invoices & Progress Reports to DWR and Final Report to DWR.

**Timeline:** January 17, 2011 – April 17, 2013; this work will commence as soon as the notice of award is received by REX. Regular and final invoices plus progress reports will be generated on a timely basis throughout the grant period. Administrative work will continue beyond the two year project term to process the final invoices and produce the final report.

## **Task 2.2 Project Management**

REX plans to contract a Lead Consultant to assist with preparation of the IRWM Plan. Tasks that are listed in this application as being the responsibility of the Project Director will not be coordinated by the Lead Consultant. Instead, Project Director tasks will either be handled by REX staff or the work will be sub-contracted by REX.

### ***Task 2.2.1 IRWM Plan Preparation***

REX will have responsibility for oversight of the entire project. It will also be the responsibility of REX to provide oversight of the Lead Consultant and any other team members contracted directly by REX.

The Lead Consultant will develop and negotiate their own contracts with any sub-consultants they need to partner with to address all the deliverables identified in the contract between the Lead Consultant and REX. The contracts with the Lead Consultant and sub-consultants will include stipulations addressing insurance, labor compliance, and other requirements compatible with the DWR contract.

The RWMG will directly oversee preparation of the IRWM Plan to ensure that the plan meets the IRWM Guidelines. The RWMG will select a Coordinating Committee (CC) made up of stakeholders from across the region, who will manage project progress. The CC will bear primary responsibility for ensuring that all project deliverables are technically accurate and consistent with IRWM Guidelines. Therefore, the Lead Consultant will report to the CC and REX on elements and/or tasks that relate directly to plan preparation and will report directly to REX on overall compliance with the DWR funding contract (e.g., invoicing, budget status, reporting, etc). The Lead Consultant and REX's sub-consultants will report to the CC monthly and the RWMG quarterly. The CC members and responsibilities will be confirmed at the initial RWMG meeting. Additionally, the subcommittees determined to be necessary will be formed at the same meeting.

The Lead Consultant will take primary responsibility for oversight and administration of his/her own in-house team as well as various sub-consultants, who will be working on a variety of deliverables in support of plan preparation. The specific tasks that the Lead Consultant will address are:

- Task 4 Governance & Integration
- Task 7 Objectives
- Task 8 Resource Management Strategies (RMS)
- Task 12 Project Review Process & Integration
- Task 13 Impacts and Benefits
- Task 14 Plan and Project Performance and Monitoring
- Task 15 Data Management & Integration
- Task 16 Finance
- Task 17 Technical Analysis
- Task 18 Prepare IRWM Plan Document

The Project Director tasks will either be handled by REX staff or the work will be sub-contracted by REX. The specific tasks are:

- Task 3 Stakeholder/Institutional Involvement & Integration
- Task 5 Coordination
- Task 6 Region Description & Resource Integration
- Task 9 Relation to Local Water Planning
- Task 10 Relation to Local Land Use Planning
- Task 11 Climate Change

Budget estimate: The estimated cost for the Lead Consultant to address the tasks listed above, based on planning grants already compiled by other regions and estimates received September 2010 from two firms, is \$220,000. The estimated cost for the Project Director tasks above to be addressed is \$124,800 based on 60% of FTE for two years at \$50/hr. Therefore, the budget estimate for IRWM Plan preparation is \$344,800.

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.2.1	\$344,800	\$0	\$0	\$0	\$344,800

Deliverables: Scope of Lead Consultant's and Project Director's contracts with REX fulfilled.

Timeline: March 17, 2011 – March 16, 2013; This can occur once the contract with DWR is finalized.

#### ***Task 2.2.2 Overall Project Management by REX***

This task involves management of the project to ensure it meets the grant agreement scope on time. All aspects of contract management will be addressed by REX and the Lead Consultant. The Lead Consultant will meet with REX each month, at minimum, to report on the overall contract status, budget, and deliverables. Phone and email will be used to discuss project management aspects as needed. In addition, REX will be provided with monthly invoices and updates, which will also serve as the basis for costs invoiced by REX to DWR for the Lead Consultant and any sub-consultants. The same accountability will be in place for any of the Project Director tasks that REX sub-contracts. In this way, project activities will be tracked on a monthly basis.

Budget estimate: 25 hours/mo avg for 27 mo at \$50/hr for REX Executive Director = \$33,750

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.2.2	\$33,750	\$0	\$0	\$0	\$33,750

Deliverables: Project scope fulfilled on time.

Timeline: January 17, 2011 – April 17, 2013; This work commences as soon as the notice of award is received by REX and will continue beyond the two year project term to manage the project details through the end of the state's fiscal year.

#### ***Task 2.2.3 Plan Facilitation by Center for Collaborative Policy***

To successfully produce an IRWM plan for the Upper Sac region, the RWMG will require the facilitation and/or mediation expertise of the **Center for Collaborative Policy (CCP)**. With guided facilitation at key meetings over the course of the planning period, the RWMG will gain trust, working relationships and skills necessary to continue the collaborative process to update and implement the IRWM plan into the future.

Over the course of the 24-month planning period, it is anticipated that the RWMG will meet eight times for an average of four hours per meeting. The Coordinating Committee will meet monthly and six subcommittees will also hold meetings. In addition, two stakeholder meetings per community are anticipated regarding the project review process (Task 12). It is estimated that a CCP facilitator will be needed for all eight RWMG meetings, for four of the CC meetings and for the first meeting of each of the subcommittees. Additional facilitation is needed for the first of the two community stakeholder meetings to be held in conjunction with the Project Review Process (Task 12).

The RWMG meetings are crucial to the plan development process. With skilled facilitation the RWMG will be able to accomplish the development of critical aspects of the plan, such as the governance structure and project selection process, with efficiency. This will be essential to keeping plan development on schedule. The CC will need to be a highly functional and efficient group as well. Having initial facilitation and subsequent facilitation as needed over the course of the planning period will keep the CC on track and assist the group with overcoming any potential road blocks. The facilitator is also needed to facilitate the first meeting of each of the subcommittees to get each group started and to provide the group with capacity-building (communication, group structure/organization, agenda development etc.) skills to ensure the group accomplishes their assigned tasks.

The hourly rate for a CCP Senior Facilitator/Mediator is \$171 per hour. When consulting with CCP staff for rates and cost estimates, they informed us that for every hour of meeting facilitated there is an average of four hours off-line time (meeting preparation and follow up) plus driving time from Sacramento, mileage reimbursement and hotel accommodation. Every effort will be made to coordinate trips and have multiple meetings facilitated at the same time. For example, when the facilitator comes to a RWMG meeting, s/he can facilitate a CC meeting and one or more subcommittee meetings in the same trip. Thus our estimated number of trips is eight for RWMG, CC and subcommittee facilitation and 2 trips for stakeholder meetings facilitation for a total of 10 trips.

Budget estimate: Facilitation hours 280 at \$171/hr for CCP Senior Facilitator/Mediator = \$47,880; Travel hours 70 at \$171/hr for CCP Senior Facilitator/Mediator = \$11,970; Travel mileage \$2,280; Hotel accommodation for 10 nights at \$150/night = \$1,500 = \$63,630 TOTAL

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
2.2.3	\$63,630	\$0	\$0	\$0	\$63,630

Budget estimate details:

Facilitation of eight RWMG meetings at an average of 4 hours per meeting: 8 meetings x 4 hours per meeting = 32 meeting hours. 32 x 4 = 128 hours x \$171/hour = \$21,888

Facilitation of four CC meetings at an average of 4 hours per meeting: 4 meetings x 4 hours per meeting = 16 meeting hours. 16 x 4 = 64 hours x \$171/hour = \$10,944

Facilitation of six subcommittee meetings at an average of 3 hours per meeting: 6 meetings x 2 hours per meeting = 12 meeting hours. 12 x 4 = 48 hours x \$171/hour = \$8,208

Facilitation of five Community Stakeholder meetings (Task 12) at 2 hours per meeting: 5 meetings x 2 hours per meeting = 10 meeting hours. 10 x 4 = 40 hours x \$171 = \$6,840.

**Facilitation Total = \$47,880**

Travel from Sacramento to center of region (McCloud) will be used as the average mileage per trip to the region = 456 return miles x .50/mile = \$228 per trip.

Travel time is 7 hours per trip at \$171/hour = \$1,197 per trip

Total Travel mileage and travel time per trip = \$1,425

Hotel accommodation for 10 nights at \$150/night = \$1,500

**Ten Trips Total = \$1,425 x 10 = \$15,750**

**Total for CCP = \$63,630**

Deliverables: Project scope fulfilled on time. RWMG members adopt an integrated approach.

Timeline: March 17, 2011 – March 17, 2013; The CCP facilitation services would be necessary to be accessible to the RWMG for the duration of the project.

### **STAKEHOLDER & INSTITUTIONAL INVOLVEMENT & INTEGRATION - TASK 3**

The Project Director will be responsible for Task 3. The Stakeholder and Institutional Involvement and Integration section will clearly define and describe the process through which stakeholder groups will be invited to participate in the collaborative development and implementation of the IRWM Plan, regardless of their ability to contribute to the plan financially. Among the details specified in the process will be the offer of a stipend for DACs and Tribes, to assist in their ability to participate and contribute to the plan (Task 3.5). Every effort will be made to engage a balance of interest groups representing the appropriate local agencies and stakeholders.

The specifics of the decision-making process, including IRWM committees, roles, positions that stakeholders can occupy and how a given stakeholder can participate, will be established by the RWMG as a component of the development of the Governance structure (Task 4). This process will be described in detail in the IRWM Plan and communicated to the stakeholders and public through public outreach and involvement (Tasks 3.4, 3.7) and the implementation of the communication strategy (Task 3.6). The diverse group of stakeholders brought to the table will work together to identify regional water conflicts and issues (Tasks 3, 4, 6), plan objectives (Task 8), resource management strategies (Task 7) and integrated projects (Task 12) that meet local and state goals, objectives and priorities (as listed in Appendix C of the Guidelines).

Within the context of historic conflict over land and water resource management, engaging a diverse group of people with differing expertise, perspectives and authority over various aspects of water management in a regional planning effort will help promote future collaboration for the integrated management of the region. In this way, a strong Stakeholder and Institutional Involvement and Integration process has the potential benefit of building trust between stakeholders, while effectively resolving significant water-related conflicts that may stem from a history of lack of understanding and mistrust.

A strategy to foster Stakeholder Involvement will include RWMG field trips to be held in June, July and August 2011. Three day-long field trips, one in each watershed, will be organized to visit infrastructure and projects associated with RWMG members, providing all members with opportunities to learn more about each other's needs and perspectives on water and water management in the region. Examples of potential field trip destinations include, water supply, treatment, and infrastructure sites, restoration sites, timber management areas, dams and hydroelectric facilities, cultural sites, etc.. The activity of visiting actual sites will build trust and understanding between RWMG members, daylight potential conflicts and highlight appropriate objectives, resource management strategies and projects, as well as opportunities for project integration within and across jurisdictions and watershed boundaries.

The Project Director will be responsible for working with a videographer (who will attend the RWMG field trips) to produce a media repository and short video/including interviews with RWMG members and stakeholders presenting a range of perspectives on water. The objective of this effort will be to build trust

and understanding, to identify and understand regional issues and conflicts, to aid in the development of plan objectives, and to support the regional background section (Task 6) related to water issues and conflicts. All of the material assembled for this purpose will be included in a media repository stored on the Upper Sac IRWM website (Task 3.6). The perspectives on water video material and descriptions of the Upper Sac IRWM process will be submitted to an upcoming Exhibit on Water, slated to open April 1, 2011 at the local Sisson Museum, (Mt. Shasta, CA).

### **Task 3.1 Identify additional stakeholders**

The process for identifying and contacting a preliminary list of stakeholders was described in Task 1 and was completed prior to the submission of this proposal. As an initial component of plan development, the Project Director will be responsible for brainstorming an expanded list of stakeholders and soliciting input from the RWMG via email and telephone calls to make sure all key stakeholders and potentially interested parties are informed about, and invited to participate in, the development of the IRWM Plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Complete list of additional stakeholders.

Timeline: March 17, 2011– May 1, 2011; This timeframe is based on the date we expect to begin incurring costs and the anticipated date of our kick-off RWMG meeting.

### **Task 3.2 Implement a process to ensure diverse participation**

The Project Director will research other successful IRWM regions' stakeholder involvement processes (such as the North Coast IRWM) and draft a process to ensure diverse participation. The proposed participation process will then be reviewed and approved by the by the CC before being implemented. Once the process is underway, feedback will be gathered by email and phone calls to RWMG members in the month after the first RWMG meeting. RWMG members will be asked specifically about their experience at the first meeting, how they think the process can be improved and what factors will determine their continued participation at a high level of involvement. The Project Director may then propose refinements to the process, based on that feedback, to be approved by the CC before implementation.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Implement process to ensure diverse participation

Timeline: March 17, 2011– July 1, 2011; This timeframe is based on the first date for reimbursable costs and the month after the kick-off RWMG meeting.

### **Task 3.3 Recruit participation by additional stakeholders**

All Stakeholders identified in 3.1 will receive 1) a written letter describing the IRWM process and inviting participation in the mail, 2) an email, 3) a follow up phone call, and 4) (if required) a face-to-face meeting.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Additional stakeholders invited to participate.

**Timeline:** March 17, 2011– May 1, 2011; This timeframe is based on the date we expect to begin incurring costs and our anticipated date of our kick-off RWMG meeting.

### **Task 3.4 Outreach to Disadvantaged Communities (DACs), & Tribal Communities**

A one-hour “Introduction to the IRWMP Process” meeting will be held in each DAC in the region. Outreach to each community will be done according to the Communication Strategy, Task 3.6 below, including multiple modes of outreach. Ten communities have been identified in the region. In some cases, smaller neighboring communities may be joined in a single meeting. Examples of where this may occur are the communities of Kinyon and Bartle, Crag View and Castella, and Pollard Flat and Lakehead. Seven to ten community outreach/public involvement meetings will be held.

The Project Director will continue outreach to County Board of Supervisors as well as the appropriate department heads such as Public Works, Planning Department, etc. Effort will be made to ensure they understand the IRWM process and the opportunities available to them. The outreach will also allow discovery of potential integration of county water management, such as wells/water quality, flood control, infrastructure and so on. Department heads will be contacted by phone to learn if they would like individual face-to-face meetings, or if it is better to coordinate a meeting of all the associated department heads for a presentation. If appropriate, a DWR representative will also be invited to attend the meeting(s) to answer questions about the IRWM program.

An “Introduction to the IRWMP process” meeting will also be held with each tribe to learn tribal concerns and ensure the tribal voice is respectfully included into the process. Meetings are anticipated with four tribes (Winnemem Wintu Tribe, Shasta Nation, Pit River Tribe and Modoc Tribe). The Project Director will be responsible for organizing and conducting the meetings.

**Budget estimate:** The budget is included in Task 2.2.1 under the responsibility of the Project Director.

**Deliverables:** Direct outreach to DACs and Tribes

**Timeline:** March 17, 2011– May 1, 2011; This timeframe is based on the date we expect to begin incurring costs and our anticipated date of our kick-off RWMG meeting.

### **Task 3.5 Stipends for DACs and Tribes**

To allow equal opportunity for participation in the RWMG meetings, a modest stipend will be offered to DACs and Tribes to help offset travel costs and hours dedicated to meeting times. The stipends will be administered by The River Exchange.

**Budget estimate:** 36 hours at \$50/hr for 8 meetings of the RWMG (for estimated 12 DAC and Tribal participants) = \$14,400

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
3.5	\$14,400	\$0	\$0	\$0	\$14,400

**Deliverables:** Stipends for DAC and Tribal participation

**Timeline:** March 17, 2011– March 17, 2013; This timeframe is based on the date we expect to begin incurring costs and our anticipated date of our final RWMG meeting.



### **Task 3.6 Implement communication strategy**

The communication strategy serves three principle purposes: 1) to inform and engage the public and 2) allow for effective communication within the RWMG and across stakeholders and 3) to foster ongoing information exchange in the Upper Sac region and with the rest of the state. One of the IRWM program preferences is to effectively solve regional water issues and conflicts. Much of the historic conflict (or perception of conflict) in the region has arisen from a different perspectives or approaches to water management. With this in mind, an additional purpose of the communication strategy is to build trust and understanding within the RWMG, and across stakeholders and the public through the transparent dissemination and exchange of information in different forms (personal contact via meetings, written via email and articles, orally via telephone calls and presentations, visually via video and digitally via a website/web portal). It is anticipated that the IRWM plan will be a living document hosted on the website that will be updated at a minimum every 5 years.

The Project Director will work with a web consultant to design, implement, host and maintain an Upper Sac IRWM website/web portal. It is anticipated that a website/web portal may be the best way to store and disseminate data (Task 15.2), communicate internally within our region, between regions and make it easily accessible to all stakeholders, agencies and interested parties. The proposed web portal being developed by the CABY region will also be evaluated for usefulness for the Upper Sac region. The Project Director will coordinate with the Lead Consultant who is responsible for Task 15, and work with the website consultant/and/or data management consultant to ensure data management, compatibility and integration (Task 15.3). The development of the website/web portal will be concurrent and coordinated with Task 15, Data Management to ensure efficient electronic information sharing.

The Project Director will be responsible for working with a videographer to produce a short video/and or short interviews of RWMG members and stakeholders that present differing perspectives on water to build trust and understanding, to identify and understand regional issues and conflicts, to aid in the development of plan objectives, and to be included in the regional background section (Task 6) on water issues and conflicts. All of this material will be included in media repository stored on the Upper Sac IRWM website/web portal. A media repository is a living repository of testaments, interviews, location footage, events, etc. that can be sorted, archived, and edited into topical, relevant pieces as needed.

#### Budget estimate:

The budget is included in Task 2.2.1 under the responsibility of the Project Director.

#### *Website/web portal and Data Management Integration*

Design (including needs assessment, focus groups, site map, etc.): 100 hours at \$50/hour = \$5,000

Implementation (build site): 80 hours at \$50/hour = \$4,000

Feedback (incorporate RWMG input): 20 hours at \$50/hour = \$1,000

Web administration: \$200/month x 24 months = \$4,800

Hosting: \$30/month x 24 months = \$720 (\$30/mo affordable for RWMG to pay in future)

Staff training for RWMG to use website/web portal including document proofing functions and data management functions: 5 hours at \$50/hour = \$250

Data management, compatibility and integration (Task 15.2, 15.3): 60 hours at \$100/hour = \$6,000

Region map finalization and map making (Task 6): 10 hours at \$100/hour = \$1,000

Backboard for 10-20 users: = \$70/month for 24 months = \$1,680

**Total: \$24,450**

*Perspectives on Water short videos*

**Short DVD** (10-20 min) introducing regional water issues, and integrated management: (160 hours at \$50/hour including field time, editing and production = \$8,000)

**Short interviews on web** (30 sec to 1 min) RWMG Perspectives on Water: (100 hours at \$50/hour interviewing, filming, editing, and posting to website = \$5,000)

**Total = \$13,000**

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
3.6	\$37,450	\$0	\$0	\$0	\$37,450

**Deliverables:** Implemented communication strategy including Upper Sac IRWM website/web portal/data management tool (Task 15); media repository stored on website; perspectives on water video.

**Timeline:** March 17, 2011– March 17, 2012; This timeframe is based on the first 12 months of our process. It is anticipated that the communication strategy, including the website/web portal and data management tool, will require feedback and possible refinement, thus the first year is allocated to develop and refine the process.

**Task 3.7 Public Involvement**

Public involvement will happen through the IRWM introduction meetings (Task 3.4) and through the communication strategy (Task 3.6). The public will be able to comment on each section of the plan via the website/web portal, and/or through written comment via regular mail. The public will also be involved via the Project Review Process (Task 12) and the public input meetings associated with that task.

**Budget estimate:** The budget is included in Task 2.2.1 under the responsibility of the Project Director.

**Deliverables:** Effective Public Involvement

**Timeline:** March 17, 2011– March 17, 2013; This timeframe is based on the entire 24-month process.

**Task 3.8 Develop, review, revise & finalize Stakeholder Involvement section**

This process is described in the Work Plan Introduction.

**Budget estimate:** The budget is included in tasks 2, 3, 4 & 18.

**Deliverables:** Finalized Stakeholder Involvement Section

**Timeline:** March 17, 2011 – July 17, 2012; The Stakeholder Involvement Section will take approximately 16 months to develop.

## GOVERNANCE – TASK 4

As a component of the IRWM Plan development, an IRWM governance structure will be established. The structure will include and address governance during IRWM Plan development as well as plan implementation, maintenance, and individual project development and execution going forward. The main objectives in developing the IRWM governance structure will include:

1. providing a framework to support effective IRWM Plan development, implementation, and maintenance that includes clearly defined roles and responsibilities, emphasizes cooperative, common interest based prioritization, and facilitates streamlined decision making;
2. building trust and promoting collaboration and clear communication within the region, across diverse stakeholder groups, and among the RWMG participants;
3. ensuring adequate outreach, public involvement, and balanced access to the IRWM process ongoing.

The governance structure will be developed with an awareness of process and governance in neighboring IRWM efforts as well as State and Federal agencies, to facilitate coordination of efforts. Additionally, it will delineate the processes and protocols for updating or amending the IRWM Plan as well as both interim and formal changes to the IRWM Plan.

Development of the governance structure will be a prerequisite for all components of IRWM Plan development. Establishment of governance structure will require unanimous approval by **all RWMG participants** in order for the structure to be adopted. Additionally, once IRWM Plan development is underway, any proposed component of the plan with implications for local government or a given municipality, **will require the approval of the affected local government** (i.e. the County of Siskiyou) or municipality(ies) (The City of Mt. Shasta, The City of Dunsmuir, or the McCloud Community Services District), in order to be included in the plan. The exception to this will be in cases where the affected local government or municipality has elected not to participate in the RWMG. In this eventuality, the RWMG will solicit input from the affected local government or municipality to aid in the decision making process. Once developed, the IRWM Plan will include a description detailing the IRWM governance structure, and explaining how the chosen form of governance addresses the three main governance objectives and facilitates the IRWM process.

Task 4 is the responsibility of the Lead Consultant. The Lead Consultant will work with a CCP facilitator throughout the development of Task 4. It is anticipated that developing, reviewing, and finalizing the governance section will be the focus of the first three meetings of the RWMG.

### Task 4.1 Governance during plan development

The neutrally facilitated process of defining and establishing a Governance structure will define the roles and responsibilities of interested parties, stakeholders, RWMG members, and the general public. This task will also determine members of the CC and form necessary subcommittees (refer to Task 2.2.1). Additional aspects to be defined include assigning ownership of specific tasks and the process by which the plan will be developed, written, revised, and approved. The governance structure, as developed by the RWMG, will contain explicit methods for conflict resolution and independent arbitration. Day lighting and making explicit the water issues and conflicts at the beginning of the process will ensure that the region does not come to the end of the process and find plan adoption impossible because there are hidden ‘deal breakers’ or irreconcilable issues. Therefore, special attention will be given to determining how the RWMG will come to consensus on acceptable issues and manage irreconcilable issues. Prior to the first

meeting of the RWMG, the CCP facilitator will do an intake call with each member of the RWMG to prepare for the first meeting.

#### ***Task 4.1.1 Draft governance with RWMG***

Prior to the first meeting of the RWMG the Lead Consultant will prepare and distribute via email a summary of governance structures from other IRWM regions such as the North Coast, CABY, Upper Sac Valley, etc.. The Lead Consultant will also solicit proposals from stakeholders and the RWMG of recommended governance structures. RWMG members will be asked to evaluate different existing structures prior to the first meeting. At the first RWMG, the group will initiate a draft of the governance structure with the assistance of a CCP facilitator. During the meeting, the group will identify pros and cons of different governance structures and choose a process for deciding what structures will work for the RWMG during development of the plan and implementation of the plan.

#### ***Task 4.1.2 Identify water issues and conflicts***

Detailed lists of regional water issues and conflicts were gathered at the Siskiyou County Water Strategy meeting in June 2009, at the Regional Tribal Water Plenary meeting in June 2009 and identified in the Upper Sacramento Watershed Assessment completed June 2010 (see Table 2). These lists of issues will serve as a starting point for water conflict and issue identification. Prior to the first meeting of the RWMG, the Lead Consultant and/or CCP facilitator will email (or mail if necessary), copies of the existing issues list to the RWMG. The RWMG will be asked to evaluate the list for accuracy or missing issues/conflicts and to bring additional issues to the first meeting. The CCP facilitator will lead the RWMG through a process of reviewing, identifying and categorizing issues and conflicts. In addition, water issues identified at public outreach meetings held prior to the RWMG meeting (Task 3.4) will be brought to the RWMG for consideration. The identification of water issues will be analyzed for potential objectives, RMS, and projects, to be coordinated with Tasks 7, 8, and 12. Any issues discovered in Task 5.2 interregional coordination will also be integrated into this process.

#### ***Task 4.1.3 Implement a process for balanced access and opportunity for participation***

With support from the Lead Consultant and CCP facilitator, the RWMG will identify structures or procedures that ensure balanced access and opportunity for participation in multiple roles within the RWMG and regionally. Regional planning efforts involve a diverse group of people with differing expertise, perspectives, and authority. Both the process for designing and establishing a governance structure, and the structure itself, once adopted, will maintain balance and diversity, by providing interested persons or entities the opportunity to participate, regardless of their ability to contribute financially to the plan.

#### ***Task 4.1.4 Create and finalize IRWM Plan Development MOU***

The MOU will include the name of the RWMG responsible for development and implementation of the plan. According to the IRWM Guidelines: An RWMG must meet the definition in CWC §10539, which states: “*RWMG means a group in which three or more local agencies, at least two of which have statutory authority over water supply or water management, as well as those other persons who may be necessary for the development and implementation of a plan that meets the requirements of CWC §10540 and §10541, participate by means of a joint powers agreement, Memorandum of Understanding (MOU), or other written agreement, as appropriate, that is approved by the governing bodies of those local agencies.*”

August 2010

The Governance section will include a description of the RWMG and explain how the makeup of the RWMG meets the definition of CWC §10539 (above). This Task will be coordinated with Task 3 Stakeholder Involvement to ensure that the make up of the RWMG is sufficient in breadth of membership and participation to develop and implement the IRWM Plan.

#### ***Task 4.1.5 Set meeting schedule for plan development***

The Lead Consultant will coordinate with the RWMG to set the meeting schedule for plan development. This will include approximately eight meetings of the RWMG, monthly meetings of the CC, eight meetings of the Project Review Process/Objectives/RMS Subcommittee, three meetings of the Local Land and Water Subcommittee, four meetings of the Climate Change subcommittee, six meetings of the Impacts and Performance Subcommittee, eight meetings of the Finance Subcommittee and four meetings of the Coordination Subcommittee.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant. The budget for CCP facilitation is in Task 2.2.3.

Deliverables: Set meeting schedules

Timeline: April 8, 2011 – November 1, 2011

#### **Task 4.2 Governance during plan implementation**

The Lead Consultant and CCP facilitator will build upon decisions made in Task 4.1 and facilitate a process for defining governance structures and procedures during plan implementation. Governance for plan implementation will define the ongoing roles and responsibilities of interested parties, stakeholders, RWMG members, the general public as well as task ownership and the process by which the plan will be implemented and updated in the future.

Task 4.2.1 Define governance and decision making for plan implementation

Task 4.2.2 Define long-term implementation strategies

Task 4.2.3 Define process for updating the plan

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant. The budget for facilitation is in Task 2.2.3.

Deliverables: Draft Governance section

Timeline: April 8, 2011 – November 1, 2011

#### **Task 4.3 Develop, review, revise & finalize Governance section**

This process is described in the Work Plan Introduction. It is anticipated that approximately three meetings of the RWMG will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Governance Section

Timeline: April 8, 2011 – February 1, 2012; If by the end of the planning process the composition of the RWMG has changed, or the members and or individual project proponents who intend to adopt the plan are different from those who finalized this section, then the RWMG list will be amended accordingly.

## **COORDINATION - TASK 5**

Coordination of water management projects and activities leads to greater efficiencies, higher likelihood of accomplishing projects and attention to issues that cross regional boundaries. The task of ensuring coordination both within the Upper Sac IRWM Region, and interregionally, will be accomplished by the Project Director. The region's plan will identify processes for coordinating with agencies, stakeholders and neighboring regions. Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

### **Task 5.1 Identify Process for Coordination within the IRWM Region**

The IRWM planning process will provide a forum for the agencies, land managers and other stakeholders in the region to develop collaborative management strategies. Luckily, many of the region's stakeholders participated in the Upper Sacramento Watershed Assessment (USWA) that was completed in June 2010. That project involved two years of stakeholder coordination within one of the watersheds which can be expanded on by the Upper Sac RWMG during its effort to develop a regional plan.

The Coordination Subcommittee will develop a proposed process for coordination within the region and gain the approval of the CC and RWMG. The regional coordination process that will be created should maximize collaborative work, identify existing areas of overlap in project design and support project development. The Project Director will ensure that this process is identified.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Coordination, within the region, process approved by the RWMG.

Timeline: June 1, 2011 – August 1, 2011; This requirement needs to be initiated within the first few months of the planning effort so a means of coordination can be established as the stakeholder/institutional involvement is expanded.

### **Task 5.2 Interregional Coordination with Neighboring and Regional IRWMPs**

There are three IRWM regions adjacent to the Upper Sac Region: the Upper Pit, the North Coast and the North Sacramento Valley. The **Upper Sac** and the **North Coast** regions will coordinate regarding lessons learned by the North Coast, who have made great progress in the IRWM process. Additionally, it will be critical to discuss water resource management that crosses the regional boundaries. Siskiyou County is divided between the two regions and county representatives actively participate in the North Coast IRWM Region efforts. Our region intends to further develop coordination between the North Coast and Upper Sac Regions, as a core component of the planning and plan development process, as well as all IRWM efforts ongoing.

Preliminary meetings conducted during preparation of this grant application indicate that the **Upper Pit**, the **Upper Sac** and the **North Sac Valley** IRWMPs have a variety of issues in common. It is clear from the initial discussions that ongoing interregional coordination will be necessary to ensure that the three IRWMPs adequately address these topics, which include: groundwater resources, tribal outreach, confirmation and mapping of regional boundaries (Task 3.6), consequences of a potential increase in

height of Shasta Lake Dam, consequences of introduction of anadromous fish above Shasta Lake, and issues associated with the State Water Resources Control Board's Irrigation Lands Program.

A preliminary strategy for ensuring coordination will be to conduct a minimum of three interregional workshops attended by RWMG members and IRWMP consultants. These workshops will be half-day and, initially, facilitated by the Upper Pit River Watershed IRWMP's consultant. This process assumes assistance from the Center for Collaborative Policy and is included in the Upper Pit budget. In general, each of the meetings will be designed collaboratively by a minimum of one representative from each region, with support materials prepared in collaboration. The consulting team will take primary responsibility for developing the meeting materials, meetings details and summaries. It is anticipated that the outcome of these meetings will be progressive refinement issue statements, identification of additional studies or assessments, and/or development of a process to ensure ongoing collaboration on key issues during implementation of each participant's respective IRWMP. The outcomes of the meetings will be integrated into appropriate sections of the Upper Sac IRWMP based on the decisions of the RWMG, CC and subcommittees. Other participating IRWMP representatives will integrate the results of this interregional workshop series into their plans at a level of detail that is consistent with the rest of their document.

#### ***5.2.1 Kick-Off Meeting for Interregional Coordination***

This initial interregional coordination meeting will be held in a central location and will be attended by two primary representatives from each IRWMP region. The purpose of the meeting will be to identify general and specific issues of mutual concern. At the close of the meeting, a list of identified issues and concerns will be distributed to each attendee (hardcopy and electronic) for presentation to their respective RWMGs. Each IRWMP's primary representative will be responsible for presenting the information to the RWMG, receiving input and comment, and preparing a brief summary of the RWMG conversation for submittal to the kick-off meeting participants. This preliminary list of issues will serve as the agenda for the first meeting of the expanded interregional coordination workgroup.

#### ***5.2.2 Conduct Two Additional Regional Workshops***

The overall goal of the workshop series is to ensure that the staff, consultants and RWMGs of all three IRWMPs have a common understanding of issues and topics that will affect the development of goals and objectives, project development and selection of resource management strategies (RMS). For this reason, after the kick-off meeting, an additional meeting will be conducted in the opening months of IRWMP development to ensure that the idea exchange is represented in the earliest stages of plan development. Once the initial set of meetings is complete, it is anticipated that a single meeting later in the plan preparation process will be conducted to synchronize strategies and approaches both within and between IRWMP regions.

#### ***5.2.3 Ongoing Support of Regional Workshops***

Initially, the Upper Pit River Watershed consultant will serve as staff to this process, particularly with respect to the kick-off meeting. In general, the agendas for each meeting will be determined at the close of the previous meeting with the agenda and all supporting materials sent to participants a minimum of ten days in advance of the next meeting. Agendas, materials and post-meeting outcomes and summaries will be posted on the Upper Pit River Watershed website with the other IRWMPs disseminating this information based on the capacities and preferences of their respective RWMGs.

Budget estimate: The Project Director's required budget for all the interregional coordination is included in Task 2.2.1.

Deliverables: Synchronize strategies and approaches both within and between IRWMP regions.

Timeline: May 1, 2011 – May 1, 2012; It is estimated the three meetings will take place in approximately May 2011, October 2011 and May 2012.

### **5.3 DWR Sacramento Funding Area Work Group**

In addition to the interregional coordination activities described above, representatives from each IRWMP in the DWR Sacramento River Funding Area (SRFA) have been meeting since June 2008. The Upper Sacramento-McCloud-Lower Pit and the Upper Pit River Watershed regions were approved through the RAP in 2010, and were subsequently contacted by members of the SRFA. The Upper Pit has participated in the two SRFA meetings that have been convened since the RAP was completed. SRFA members have been working to identify formulas for distributing implementation grant funds within the funding area. The group has also identified mechanisms for intraregional project development and coordination. This provides the Upper Sac Region with an additional forum for collaboration, communication, coordination, and joint project development. As the SRFA meets roughly once a quarter, depending on external factors such as grant funding cycles, it is expected that there will be a maximum of six such meetings over the life of this project. Several regional organizations are currently investigating and developing a variety of regional initiatives that address topics of concern to the Upper Sac Region. Active participation in these efforts by RWMG members may prove instrumental in resolving regional water management conflicts, implementing RMS, developing objectives, identifying objective measurement criteria, and developing projects.

Budget estimate: The Project Director's required budget for all the SRFA is included in Task 2.2.1.

Deliverables: Address Sac Funding Area Issues & Opportunities

Timeline: April 1, 2011 – March 1, 2013; It is estimated that six meetings will be required during the planning period.

### **Task 5.4 Develop Process & Procedures for Coordinating with State, Federal and Local Agencies**

Only two incorporated cities (Dunsmuir & Mount Shasta) exist within the region. There are several other agencies/jurisdictions that provide water and a significant portion of the region is managed by federal agencies. Most of the water-related planning is done by the state, federal and county agencies, but without much coordination among the entities. The region's plan will identify areas where state or other agencies may be able to assist with communication, cooperation or implementation of plan components. Additionally, the plan will clarify when state or federal regulatory decisions are required before projects can be implemented. Due to coordinated efforts and active involvement of agencies in the RWMG, the plan will be able to effectively integrate water management programs and projects within the Sacramento River hydrologic region and the northern portion of the Central Valley Regional Water Quality Control Board region.

Active participation in the RWMG should create efficiencies and minimize management conflicts. The RWMG already has commitments of participation from the following agencies: Shasta-Trinity National Forest, Department of Fish & Game, Western Shasta Resource Conservation District, Shasta Valley RCD, US Fish and Wildlife Service, City of Mount Shasta, City of Dunsmuir and the McCloud Community Services District. Prior to the IRWM planning grant being executed for the region, members of the RWMG will outreach to additional agencies to participate in the important, integrated, planning process. The expanded RWMG will provide a regional forum for agencies to coordinate their efforts. It will be the



responsibility of the Coordinating Subcommittee to develop the specific process and procedures to facilitate coordination among the region's agencies. The Project Director will ensure that the process and procedures are identified.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Agency Coordination Process & Procedures Approved by the RWMG

Timeline: June 1, 2011 – August 1, 2011; This need can be addressed concurrently with Task 5.1 - identification of a process for coordination within the region.

### **Task 5.5 Develop, review, revise & finalize Coordination section**

This process is described in the Work Plan Introduction. It is anticipated that approximately four meetings of the Coordination Subcommittee (comprised of about eight representatives) will be required to create this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Coordination Section

Timeline: April 1, 2011 – March 1, 2013

## **REGION DESCRIPTION AND RESOURCE INTEGRATION - TASK 6**

The Region Description section is the responsibility of the Project Director. As discussed in the background section, the Upper Sac region description to be developed for inclusion in the IRWM plan will draw on a broad pool of primarily recently compiled information (See Table 2). These materials will be collected and evaluated, data gaps will be catalogued, a strategy for filling data gaps and ensuring data compatibility for integration will be devised and finally, the region description will be generated from this material.

As described in the Background portion of the Work Plan, the region has already identified a list of regional water management issues and conflicts. The issues list will serve as a starting point for water conflict and issue identification for inclusion in the region description. Issues will also be identified and refined through the public involvement meetings, RWMG field trips and perspectives on water video described in Task 3, and interregional issues discovered in Task 5.2.

The description of major water related objectives and conflicts will be developed during the course of Tasks 3, 4 and 6.2. Included in this will be efforts to effectively involve and collaborate with Tribal government representatives to improve tribal and regional water and natural resources sustainability. The final region boundary and clarification of groundwater basins will be determined in Task 5.2. The data in the Region Description will ensure compliance with data QA/QC Procedures described in Task 15.2. Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

### **Task 6.1 Collect and evaluate existing data**

The Project Director will gather and evaluate all documents referenced in Table 2, digitize any documents that are not in digital format and upload all documents to the Upper Sac IRWM website/web portal (Task

3.6). The RWMG and local and regional agencies will be contacted to determine if any information critical to the IRWM region description is missing. The documents will also be evaluated to identify existing regional projects that can be put on the project list for potential integration.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Existing data compiled and evaluated.

Timeline: May 1, 2011 – June 1, 2011; This task will occur concurrently with Tasks 9 Local Water Planning and 10 Relation to Local Land Use Planning to make sure all existing local information is gathered and evaluated.

## **Task 6.2 Catalog data gaps**

There are a number of data gaps the region is currently aware of from the work described in Table 2. Data gaps will be systematically catalogued and represented in a table. To identify and adequately describe data gaps regarding regional and water resource management from a tribal perspective, in Tribal areas of concern, an ethnographer will be contracted to meet individually with each participating tribe in our region. These gaps will inform both issues identification and potential projects. A written document will be given to the section author for inclusion in the IRWM Plan.

Budget estimate: Ethnographer to meet with Pit River Tribe, Winnemem Wintu Tribe, Shasta Nation and Modoc Tribe = 4 days (\$750/day) = \$3,000 plus travel approximately 1,000 miles total = \$500. The Project Director's budget is included in Task 2.2.1.

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
6.2	\$3,500	\$0	\$0	\$0	\$3,500

Deliverables: Table matrix of data gaps

Timeline: June 1, 2011 – September 1, 2011

## **Task 6.3 Develop strategy for filling data gaps and ensuring data compatibility for integration**

The Project Director will coordinate with the Lead Consultant to communicate identified data gaps and determine a strategy for incorporating that knowledge into the project review process (Task 12) and data management (Task 15) sections of the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Strategy for data gaps and compatibility for integration

Timeline: September 1, 2011 – December 1, 2011

## **Task 6.4 Generate actual Region Description**

The RAP proposal in combination with the Background section of this planning grant proposal will serve the first draft of the Upper Sac region description. These documents will be expanded to provide a comprehensive discussion of how the IRWM planning region is defined by the water systems being managed, common water issues and conflicts and the wide range of stakeholders interested in the planning region. Data gathered from Tasks 3, 4, 7, 8, 9, and 10 will be used to inform the region description.

The region description will fully document the watersheds and water systems, internal boundaries, water supplies and demands, water quality conditions, social and cultural make up, major water related objectives and conflicts, the IRWM regional boundary and neighboring and/or overlapping IRWM efforts. A complete discussion of how collaborative integrated regional planning and management efforts can focus on a shared vision of regional goals and objectives will be included. Region map finalization and development of additional maps is included as a budget item in Task 3.6.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Draft Region Description.

Timeline: September 1, 2011 – December 1, 2011

### **Task 6.5 Develop, review, revise & finalize Region Description section**

This process is described in the Work Plan Introduction.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Region Description Section

Timeline: May 1, 2011 – March 1, 2012

### **OBJECTIVES - TASK 7**

Determining IRWM Plan objectives is the foundation of the planning process as clear objectives will demonstrate to the public which regional conflicts and water management issues the plan will address, and because applicable RMS and implementation projects will be determined based on IRWM Plan objectives. As objectives, RMS and projects are inextricably linked, a Project Review Process/Objectives/RMS Subcommittee will work to integrate these aspects of the plan.

The identification of objectives within existing local policies will be completed in Tasks 9 and 10. These will be compared with the Statewide Preferences, and DWR Program Preferences, and any overlaps or gaps will be identified. Basin Plan Objectives, 20x2020 water efficiency Goals, NPS 319(h) Region 5 Redding Local Watershed Programs, NPS Program Activities (updated July 2010) and the requirements of CWC §10540(c) will be addressed in the development of the plan objectives. The section will describe the process by which objectives were developed, what groups were involved in the process, how the final decision was made by the RWMG and how objectives were prioritized. The measurement of IRWM Plan objectives will also be discussed in Plan and Project Performance and Monitoring (Task 14). The development of the objectives section and the RMS section will occur concurrently with the development of the Region Description (Task 6) as objectives may be determined once the character of the IRWM region (geography, stakeholder make up, water management issues, conflicts, etc.) is identified. Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

It is anticipated that approximately eight meetings of the Project Review Process/Objectives/RMS Subcommittee will be required to accomplish this task. Due to multiple agencies and interests needing to participate in this effort, approximately five representatives will be on this subcommittee.

### **Task 7.1 Initiate process for development of objectives**

The Lead Consultant will work with the Project Review Process/Objectives/RMS Subcommittee to draft a process for the development of the IRWM Plan objectives. The process will be reviewed by the CC and taken to the RWMG for approval.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Process for development of objectives.

Timeline: September 1, 2011 – December 1, 2011

### **Task 7.2 Develop initial draft objectives and measurement criteria**

The Lead Consultant will utilize the matrix of integrated goals and objectives (Task 9.2) and compare it with Basin Plan Objectives, 20x2020 Water Efficiency Goals, and the requirements of CWC §10540(c) as well as with the identified regional water issues and conflicts (Task 3, 4, 5.2, 6). An initial draft list of regionally relevant objectives and measurement criteria will be developed with the Project Review Process/Objectives/RMS Subcommittee. Measurement criteria will be quantitative, qualitative or both - depending on the objective. After review by the CC, the draft objectives and measurement criteria will be taken to the RWMG for review.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Draft objectives and measurement criteria.

Timeline: September 1, 2011 – December 1, 2011

### **Task 7.3 Review and comment on draft materials**

RWMG will provide input to the Lead Consultant on the first draft of objectives and measurement criteria.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Revised objectives and measurement criteria

Timeline: January 1, 2012 – March 1, 2012

### **Task 7.4 Develop, review, revise & finalize Objectives section**

This process is described in the Work Plan Introduction. It is anticipated that approximately eight meetings of the Project Review Process/Objectives/RMS Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Objectives Section

Timeline: September 1, 2011 – June 1, 2012

## **RESOURCE MANAGEMENT STRATEGIES (RMS) - TASK 8**

The RWMG will pay close attention to integrating and combining RMS as a way to diversify the water management portfolio of the region with the specific intent of adapting to and mitigating uncertain future circumstances. The identification of RMS within existing local policies will be completed in Tasks 9 and 10. These will be compared with, at a minimum, the California Water Plan Update 2009 RMS (listed in Table 3 on page 45 of the IRWM Guidelines), and any overlaps and gaps will be identified. Basin Plan Objectives, 20x2020 Water Efficiency Goals, NPS 319(h) Region 5 Redding Local Watershed Programs, NPS Program Activities (updated July 2010) and the requirements of CWC §10540(c) will be considered in the determination of which RMS will be implemented to achieve the objectives of the IRWM Plan. The RWMG will also make sure that the Region Description (Task 6), Plan Objectives (Task 7) and Governance (Task 4) sections are consistent with the decisions being made in the RMS section. Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

It is anticipated that approximately eight meetings of the Project Review/Process/Objectives/RMS Subcommittee will be required to accomplish this task. Due to multiple agencies and interests needing to participate in this effort, approximately five representatives will be on this subcommittee.

### **Task 8.1 Initial development and review of RMS list**

The Lead Consultant will utilize the matrix of integrated goals and objectives (Task 9.2) and compare it with the California Water Plan Update 2009 RMS (listed in Table 3 on page 45 of the IRWM Guidelines) and identify any overlaps and gaps. The existing RMS in local plans and the RMS in state plans will be integrated and presented as a list to the RWMG for review and consideration.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: RMS list for RWMG consideration

Timeline: September 1, 2011 – December 1, 2011

### **Task 8.2 Define process for determining which RMS to adopt**

The Lead Consultant will work with the Project Review Process/Objectives/RMS Subcommittee to draft a process for determining which RMS to adopt. Processes that include technical advisory input and stakeholder input will be evaluated. The suggested process will be reviewed by the CC and taken to the RWMG for review.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Process for adoption of RMS

Timeline: September 1, 2011 – December 1, 2011

### **Task 8.3 Develop, review, revise & finalize RMS section**

This process is described in the Work Plan Introduction. It is anticipated that approximately eight meetings of the Project Review Process/Objectives/RMS Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized RMS Section

Timeline: September 1, 2011 – May 1, 2012

## **RELATION TO LOCAL WATER PLANNING - TASK 9**

The Project Director is responsible for the development of Task 9. The Local Water Planning section will list the local water plans used in the IRWM Plan, discuss how the IRWM Plan relates to planning documents and programs established by local agencies and describe the dynamics between the IRWM Plan and local planning documents. Identifying the objectives and RMS in the existing planning documents will inform the development of IRWM Plan objectives and RMS. Thus Tasks 9 and 10 will occur early in the plan development process to facilitate early discovery of objectives and RMS for the IRWM Plan. The RWMG will designate a subcommittee of approximately three representatives to assist with this work. It is anticipated that approximately three meetings of the Local Land and Water Subcommittee will be required to finalize this section. The Local Land and Water Subcommittee will send a representative to report to the CC regarding their work. Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

### **Task 9.1 Compile list of local water plans**

The Project Director will utilize the work generated from the Siskiyou County Water Strategy Phase 1, for the completion of Task 9.1, including:

- description of Siskiyou County's current water-related strategies; and
- description of pertinent state and federal water-related laws, regulations, and programs relating to Siskiyou County's water resources and the bibliography of available information sources related to each watershed's hydrology, water quantity, water quality, flood control and water management.

The Project Director, with support from the Lead Consultant, will generate the same information for Shasta County (including, but not limited to: municipal water master plans, USFS water planning documents, FERC documents, FEMA mapping data, Shasta County Planning Department documents, etc.) and obtain copies of all available, relevant planning documents identified in the Siskiyou County Water Strategy or by the Project Director.

Budget estimate: This budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Compile list of local water plans

Timeline: May 1, 2011 – July 1, 2011; this occurs early in the planning process to facilitate early discovery of objectives and RMS

## **Task 9.2 Determine how the IRWM Plan will integrate with local water plans, programs and agencies**

To accomplish this task the Project Director will review all of the available water planning documents as identified in Task 9.1. Then a matrix of integrated goals and objectives will be developed to compare goals and objectives within existing governmental plans and to determine areas where these plans are addressing, or are not addressing, IRWM program preferences and statewide priorities. This matrix document will be used to inform development of IRWM Plan goals, objectives and RMS. Any existing regional projects that are discovered in the analysis of the documents will be compiled into a list for the Lead Consultant for Task 12 Project Review Process.

Budget estimate: This budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Matrix of integrated goals and objectives.

Timeline: June 1, 2011 – August 1, 2011; This work will start just after Task 9.1.

## **Task 9.3 Develop, review, revise & finalize Local Water Planning section**

This process is described in the Work Plan Introduction. It is anticipated that approximately three meetings of the Local Land and Water Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Local Water Planning Section

Timeline: May 1, 2011 – December 1, 2011

## **RELATION TO LOCAL LAND USE PLANNING - TASK 10**

The Project Director is responsible for Task 10. The local land use planning section will determine the current relationship between local land use planning, regional water issues and water management objectives. It will also identify processes to foster communication between land use managers and the RWMG with the intent of effectively integrating water management and land use planning. In addition, plans to further a collaborative, proactive relationship between land use planners and water managers will be discussed.

Identifying the objectives and RMS in existing planning documents will inform the development of the IRWM Plan objectives and RMS. Thus Tasks 9 and 10 will occur early in the plan development process to facilitate early discovery of objectives and RMS for the IRWM Plan. This section will also be informed by existing and newly developed understanding of regional water issues. To facilitate this, Task 10 will be concurrent with the exploration of regional water issues (Tasks 3, 4, 6). Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

The RWMG will designate a Local Land and Water Subcommittee of approximately three representatives to assist with the work and coordination comprised in Task 10. It is anticipated that approximately three meetings of the subcommittee will be required to finalize this section. The Local Land and Water Subcommittee will send a representative to report to the CC regarding their work.

### **Task 10.1 Determine current level of integration between local land use planning and regional water management**

The Siskiyou County Water Strategy Phase 1 bibliography referenced in Table 2, will serve as the information base to determine the level of integration between land and water policies. All documents will have been procured, digitized and catalogued along with other digital resources for the project in Task 9.1. All documents will be analyzed for content including objectives and goals, areas of integration across plans and then the information will be put into the goals and objectives matrix described in Task 9.2. These tasks will be completed before Task 10.1 to ensure no overlap in work effort to achieve the goals of each task.

The Project Director will then generate a series of interview questions that focus on the amount of integration between land use management, water management and planning efforts in the region. The Project Director will conduct phone interviews of a sample of existing water providers, users, land use managers and property owners to get an indication of the current amount of integration between land use planning and regional water management. Any existing regional projects that are discovered during the interview process will be compiled into a list for the Lead Consultant for Task 12 (Project Review Process).

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Summary of survey results and planning document goals and policies indicating level of integration between local land use planning and regional water management. This summary will be integrated in to the IRWM Plan.

Timeline: June 1, 2011 – August 1, 2011

### **Task 10.2 Develop process to foster communication and collaboration between land use managers, water managers and the RWMG**

To develop a process to foster communication and collaboration between land use managers, water managers and the RWMG, contact information for all water providers, land use managers and water management agencies will be gathered and shared among the group. Contact information and land and water policies will be posted in one place on the Upper Sac IRWM website/web portal (Task 3.6) to foster ease of communication.

The Project Director will develop a follow up interview questionnaire/needs assessment for land and water managers and conduct an interview with identified land and water managers to develop a communication process that could benefit them. The findings will be incorporated into the IRWM Plan. In addition, the Project Director will evaluate the potential for local RCD's to be a convener for communication between land use, water use and the RWMG. Upon synthesizing this information, the Project Director will work with the Local Land and Water Subcommittee to develop a strategy to foster communication and collaboration for incorporation into the Local Land Use section of the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Summary of the existing needs as well as proposed strategies to foster communication and collaboration.

Timeline: August 1, 2011 – September 1, 2011



### **Task 10.3 Develop, review, revise & finalize Local Land Use Planning section**

This process is described in the Work Plan Introduction. It is anticipated that approximately three meetings of the Local Land Use and Local Water Planning Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Local Land Use Section

Timeline: June 1, 2011 – January 1, 2012

### **CLIMATE CHANGE - TASK 11**

Across the globe, climate change models are predicting drastic changes to temperatures and hydrologic processes as a result of global climate change. In the Western United States, predicted impacts vary from region to region based on a variety of factors. In general, however, prolonged droughts, extreme floods, and water quality problems are likely to be intensified. At higher elevation regions like the Upper Sacramento Watershed, mountain snow packs are expected to decline, the magnitude and frequency of large storm events is expected to increase and a greater portion of precipitation is expected to fall as rain. Among the potential effects of this are decreased natural water storage, increased downstream flooding, decreased soil moisture, increased risk of fire and increased sedimentation and erosion. Additionally, increased damage to homes and infrastructure is among the risks associated with climate change in our mountainous region. The winter of 2009-10 provided additional evidence of this risk, as a large, warm, snow event resulted in portions of Siskiyou County being declared a disaster area.

Despite recent warming trends across California, greater sensitivity to precipitation rather than temperature appears to have shielded Mt. Shasta's glaciers, one of our region and the state's principal water sources, from the retreat occurring among glaciers in the Cascades and Rocky Mountains (Howat et al 2007). Recent climate modeling, however, suggests that temperature will soon take over as the dominant forcing agent for Mt Shasta's glaciers, resulting in their near total retreat and loss by the end of the 21<sup>st</sup> century (Howat et al. 2007). Given the storage capacity of the Sacramento drainage's reservoir system, and our region's position in the watershed, impacts to our headwater systems from decreased snow pack or glacial retreat may be far more immediate than impacts to downstream ecosystems and water resources.

The Upper Sac region is fortunate to have several existing, climate focused research projects and environmental monitoring programs already focused on our region. With their existing findings as our foundation, and for the development of the Climate Change section of the plan, we will

- 1) expand and continue regional climate research and monitoring,
- 2) collect and compile existing regional climate data,
- 3) determine regional climate change vulnerabilities, and
- 4) identify adaptive management strategies.

The Project Director, in coordination with the Lead Consultant, will incorporate and integrate the information and analysis produced by this process into the region description, plan objectives, RMS, project review process, relation to local water planning, relation to local land use planning, plan performance/monitoring and coordination sections of the IRWM plan. Additionally, project review will include a process that discloses and considers GHG emissions when choosing between project

alternatives. The process for updating the IRWM Plan will be determined in Governance (Task 4). It will specify how the plan will be updated to account for new information that becomes available related to climate change and associated adaptive management strategies.

Due to the number of regional entities needing to contribute specific details to compile the Climate Change section of the region's plan, the RWMG will designate a subcommittee of approximately five representatives to assist with this work. It is anticipated that approximately four meetings of the Climate Change Subcommittee will be required to finalize this section. Because of the integrated nature of climate change information and the need for it to be incorporated throughout the IRWM plan, the Climate Change subcommittee will work closely with the CC to ensure broad integration across all appropriate sections of the plan. To facilitate this, the subcommittee will designate a specific representative, responsible for regular reports to the CC regarding Climate Change work.

### **Task 11.1 Climate research and monitoring**

A great deal of region specific climate change research and monitoring is already occurring in and around our region. As a component of the IRWM plan, the Project Director in coordination with the Climate Change Subcommittee will identify active climate research and monitoring projects in the region and develop a process for ongoing regional climate science updates to the RWMG. Additionally, regional climate science programs already participating in the IRWM process will continue their climate work in support of the IRWM plan. Existing key sources of mid and long term climate research and monitoring for region's watersheds include:

**Castle Lake Environmental Research and Education Program (CLEREP)**—Located in the Sacramento Headwaters portion of the Upper Sacramento watershed, CLEREP has been conducting long-term research and building a 52-year monitoring dataset on biological, physical and water quality parameters in small watersheds within the Sacramento Headwaters. Long-term physical and ecological monitoring will continue, along with refinement of an empirical model, based on CLEREP's long-term (52 year) dataset, to investigate the effect of climate scenarios on water quality and ecosystem productivity in the Upper Sacramento Watershed.

**October 2008 – May 2009   \$21,000**

**June 2009 – May 2010       \$32,000**

**June 2010 - May 2011       \$32,000**

**Total: \$85,000 Other Contribution – Funding Match**

### **California Trout Mount Shasta Springs and Groundwater Study**

To assist in determining how and if Mount Shasta's springs may be impacted due to development and/or climate change and to help local municipalities plan for future water supply in 2009 22 springs on Mount Shasta (high, middle and low elevations) were sampled for a full suite of general water quality and geochemical parameters. A subset of the samples was also analyzed for oxygen, hydrogen and deuterium isotopes. Five of the spring samples were age dated based on analysis of the tritium isotope. The purpose of the sampling was to determine the elevation that spring water originates on the mountain, as well as if any of the springs may be related. The flow of nine springs was monitored quarterly to determine if there are seasonal and/or yearly fluctuations. In 2010 the study will continue and expand to age date the local municipal water supplies and to start linking precipitation patterns with spring flow. A vulnerability index will be created for the springs.

**January 2009 - January 2010   \$10,000**

**January 2010 – January 2011 \$10,000**

**Total: \$20,000 in-kind match**

### **USFS Watershed Vulnerability Assessment**

The Shasta Trinity NF is representing Region 5 in a National Climate Change Assessment of Watershed Vulnerability. The forest's pilot study is assessing the interrelationship of regional climate models and the projected exposure to key aquatic resources on national forest system lands at three different scales; a sub-basin, a watershed and sub-watershed. Key resources considered include snow pack, anadromous fisheries, redband trout, water bodies likely to warm and/or dry, springs, ground water resources and infrastructure that could be at risk with increases in extreme precipitation events. A conceptual approach for this assessment was developed by a core group from the Rocky Mountain Research Station, Pacific Northwest Research Station and the Stream Systems Technology Center with support from Regional Offices Staff from R2 and R6.

**February 2010- October 2010**

**Total: \$64,300 in-kind match**

#### Budget estimate:

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
11.1	\$0	\$169,300	\$0	\$0	\$169,300

#### Deliverables:

- On-going regional climate research and monitoring, tracking implications of climate dynamics for water quality and availability.
- Continued updates and refinement of an empirical model based on long-term data to support the development of regional climate scenarios, as a component of assessing vulnerabilities and developing adaptive management strategies.
- On-going research on spring and groundwater quality and availability.

Timeline: September 28, 2008 – May 31, 2011

### **11.2 Collect and Compile existing data**

As a component of plan development, existing data will be gathered in a variety of fields related to Climate Change and its potential effects. The Project Director will work in conjunction with the Climate Change Subcommittee to collect and compile data appropriate to address a range of topics including regional physical landscape condition and hydrologic function, public safety, ecosystem condition, and long-term water supply reliability. Data will be compiled from a range of sources including all DWR climate change resources, local and regional studies related to climate change, state and federal agency publications on climate change, and peer reviewed scientific research publications. These will be uploaded to the DMS via Task 3.6 and Task 15.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

#### Deliverables:

- List of active climate research and monitoring projects in the region.
- Compilation of existing data.
- Process for ongoing regional climate science updates to the RWMG.

Timeline: September 28, 2008 – December 31, 2011

### **Task 11.3 Determine Regional Vulnerabilities**

From available data, the Project Director and Climate Change subcommittee will determine regional vulnerabilities based on a range of climate change scenarios drawn from the best available science, both specific to our IRWM region, and relative to the greater region and state. Assessment of regional vulnerabilities will then be incorporated into a diverse suit of plan components including, but not limited to plan objectives, RMS, project review process, relation to local water planning, relation to local land use planning, performance and monitoring and coordination sections of the IRWM Plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables: Description of regional vulnerabilities.

Timeline: December 1, 2011 – March 1, 2012

### **Task 11.4 Identify adaptive management strategies**

Based on climate change research and data, and in direct response to regional vulnerability, the Climate Change subcommittee will work with the Project Director, and in coordination with the Lead Consultant, to identify existing and potential management actions that could be affected by climate vulnerabilities and design adaptive management strategies to account for a range of scenarios. Strategies will leverage resources outlined by DWR (See Appendix C of Guidelines) including *The Climate Change Scoping Plan, Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water* (2008), and the 2009 California Climate Adaptation Strategy report. The IRWM Plan will include an evaluation of the adaptability to Climate Change of water management systems in the region, and discuss adapting to changes in the amount, intensity, timing, quality and variability of runoff and recharge, presenting a range of scenarios and identifying specific strategies and associated actions in each area. Included in the evaluation of adaptive management strategies will be discussion of Climate Change mitigation through reduced GHG emissions. In addition, strategy discussion will address the relative risks to the region of no action. Climate Change adaptive management strategies established in this component of the IRWM plan will also be incorporated and integrated into other plan components including, plan objectives, RMS, project review process, relation to local water planning, relation to local land use planning, plan performance and monitoring and coordination.

A list of prioritized management strategies will be established, relative to each identified vulnerability, in each management area and included in the IRWM Plan. Climate Change adaptive management strategies and associated priority will be proposed by the Climate Change subcommittee based on recommendations from the Lead Consultant, Project Director and approved by RWMG.

Over the course of the planning process, the Climate Change subcommittee will also be responsible for keeping the RWMG involved and up to date on CNRA's California Adaptation Strategy process. Additionally, Agencies participating in the IRWM will be encouraged to join the California Climate Action Registry (CCAR).

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Project Director.

Deliverables:

- Evaluation of management alternatives relative to climate change.
- Prioritized climate change adaptive management strategies.
- On-going participation in CNRA's California Adaptation Strategy process.

Timeline: April 1, 2012 – December 1, 2012

#### **Task 11.5 Develop, review, revise & finalize Climate Change section**

This process is described in the Work Plan Introduction. It is anticipated that approximately five meetings of the Climate Change Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Climate Change Section

Timeline: September 28, 2008 – February 1, 2013

### **PROJECT REVIEW PROCESS & INTEGRATION – TASK 12**

The Lead Consultant will compile an initial list of potential projects that will come out of a number of tasks, including the process of identifying regional water issues and conflicts during Stakeholder Involvement (Task 3), Governance (Task 4), Region Description (Task 6), and the identification of plan Objectives (Task 7) and RMS (Task 8). The Lead Consultant will coordinate with the Project Director on Tasks 9 and 10 to determine what existing regional water and land use projects can be added to the list of potential projects. The Lead Consultant will compare the potential project list with the list of projects in the Impacts and Benefits section of the IRWM Guidelines. The list will also be evaluated next to eligible project types as listed on page 17 of the Guidelines. This initial list will guide the development of the project review process. Projects will be analyzed so that existing projects can potentially be integrated with new projects. The project review process will be developed by the Project Review Process Subcommittee in coordination with the Lead Consultant and CCP facilitator and be finalized by the RWMG based on the to-be-determined RWMG decision-making process and governance structure.

Considering the magnitude of need and potential for competing interests because of existing water issues and conflicts, the process for determining priority projects for inclusion in the plan must be transparent and fair. To ensure that all stakeholders and the public are included in the process, two stakeholder meetings per community related to the project review process will be held. Specifically, after the project review process and application materials are available, a meeting will be held to explain the process, priorities, criteria and goals of IRWM Plan. In addition, the project review process will be explained and attendees can provide input regarding any projects they feel would meet the criteria. After all of the comments have been collected and incorporated into the project list and reviewed, a second meeting will be held to explain what projects the community/agency has decided to develop for consideration of the RWMG for inclusion in the IRWM Plan. Information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

#### **Task 12.1 Create preliminary project review process (including criteria, consideration of integration, environmental compliance and tribal notification)**

The Project Review Process Subcommittee with the Lead Consultant will create a project review process, which will include procedures for submitting a project to the RWMG and a procedure for review of projects by the CC and the RWMG. Procedures for review of projects will be consistent with the IRWM considerations (page 21-22 of the IRWM Guidelines) including but not limited to how the project contributes to the IRWM Plan objectives, how a project is related to RMS, technical feasibility, benefits to DAC water issues, Environmental Justice, as well as costs and financial feasibility and need for compliance with CEQA. In addition, the criteria for projects will refer back to the lists of projects

included under Impacts and Benefits in Appendix C of the IRWM Guidelines (pages 51-55) to assure projects meet state priorities. A weighted system will be developed by the subcommittee, approved by the RWMG and utilized to prioritize project selection and inclusion in the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Project review procedures handbook.

Timeline: June 1, 2011 - July 1, 2011

### **Task 12.2 Prepare project application materials**

The Project Review Process Subcommittee, with guidance from the Lead Consultant and CC, will develop an application packet for DACs and other stakeholders to submit project proposals. The application packet will be based upon the outcome of Task 12.1 and will include the identified selection criteria as developed in Task 12.1. The Upper Pit region will be developing a DAC Project Development Manual. The subcommittee will review the Upper Pit manual and potentially incorporate particular components deemed beneficial to the Upper Sac region's application materials.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Project application packet.

Timeline: July 1, 2011 – August 1, 2011

### **Task 12.3 Contract support for DACs and Tribes to assess needs, develop and submit competitive project proposals**

As the project criteria are technical and extensive, a specialized sub-consultant will be contracted by the Lead Consultant to work closely with DACs and tribes to help determine their needs and develop project proposals. In order to create integrated, feasible and necessary projects with the largest benefits for the region, project proposals will be designed with consideration of the selection criteria developed in Task 12.1 above. The time estimated to complete project proposals for inclusion in the plan is an average of 90 hours per project. This estimate is based on the previous experience of the CABY region developing projects for DACs. Eligibility for this assistance will be determined by the RWMG via the to-be-determined decision-making process. If there are more projects needing assistance than has been budgeted, the additional projects will be summarized and considered when updating the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant. Additionally, a sub-consultant for 90 hours at \$110/hour for each DAC or Tribal project = \$9,900 per project, estimated 5 projects = \$49,500.

Task	Grant	Match	Unmet Need	Non-reimbursable	TOTAL
12.3	\$49,500	\$0	\$0	\$0	\$49,500

Deliverables: Project applications prepared to include in the plan.

Timeline: January 1, 2012 – June 1, 2012

#### **Task 12.4 Finalize project review process**

In order to finalize the project review process, the Project Review Process/Objectives/RMS Subcommittee, along with the Lead Consultant will complete an initial review of project applications utilizing the review process developed in Task 12.1 above. This will provide an opportunity to identify necessary revisions or modifications to the process. Any proposed modifications to the review process will be discussed with the CC. The project review process will be revised as necessary to ensure the selection of quality projects with maximum benefit for water management integration in the region.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Revised project review handbook.

Timeline: July 1, 2012 – August 1, 2012

#### **Task 12.5 Select list of projects for inclusion in Plan**

Based on the revised project review handbook developed in Task 12.4, projects will be selected for inclusion in the region's plan. This process will be developed by the Project Review Process Subcommittee in coordination with the Lead Consultant and CCP facilitator and be finalized by the RWMG, using the to-be-determined RWMG decision-making process and governance structure. A **possible** process for selection of projects is described below.

All projects could be presented to the RWMG and to stakeholders, meaning no projects would be excluded without review. Upon initial screening of projects by the CC to assure all criteria are met, projects would be presented to the RWMG. Projects could be categorized as First Tier Projects, Second Tier Projects and Third Tier Projects - based on their qualifications for implementation. The project review handbook would describe the methodologies for determining which implementation tier projects would be listed under. If disagreement occurs regarding project selection, changes could be considered by the CC and re-presented to the RWMG and stakeholders, with support from the CCP facilitator until agreement is reached.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Final project list to be included in the IRWM Plan.

Timeline: September 1, 2012 – February 1, 2013

#### **Task 12.6 Develop, review, revise & finalize Project section**

This process is described in the Work Plan Introduction. It is anticipated that approximately eight meetings of the Project Review Process/Objectives/RMS Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Project Section

Timeline: July 1, 2011 – March 1, 2013

## **IMPACTS AND BENEFITS - TASK 13**

The Lead Consultant is responsible for the development of the Impacts and Benefits section. A simple analysis will be provided of potential impacts and benefits of plan implementation within the IRWM region and between regions. Potential impacts and benefits directly affecting DACs, EJ concerns and Native American Tribal Communities will be also be discussed and presented in Impacts and Benefits tables. The tables will evaluate the potential impacts and benefits of chosen RMS, objectives, and projects. As data is collected over time on projects implemented through the plan, the impacts and benefits tables will be updated to measure the performance of the plan. This work effort will be informed by the examples listed on pages 51-55 of the IRWM Guidelines.

The Impacts and Benefits section and the Plan & Project Performance/Monitoring section are inextricably linked, thus these two sections will have a single subcommittee responsible for their integration. This subcommittee will be named the Impacts and Performance Subcommittee. This subcommittee will be involved with the Project Review Process/Objectives/RMS Subcommittee. Once the Project Review Process, Objectives and RMS sections are complete, the Impacts and Performance Subcommittee will have the task of evaluating the potential impacts and benefits of plan implementation and developing the process for continued monitoring and measurement of plan and project performance as well as identifying adaptive management strategies.

As the Impacts and Benefits section of the plan is a simplified analysis, detailed project specific impacts and benefits analysis and CEQA and/or NEPA requirements will be addressed in the Project Review Process (Task 12). It is anticipated that part of the project selection criteria will be a summary of impacts and benefits for each project as well as how it meets overall plan objectives. It is possible that some projects identified for inclusion in the plan may require environmental review, and this review will take place before the project is implemented.

It is anticipated that approximately six meetings of the Impacts and Performance Subcommittee will be required to accomplish this task. Due to multiple agencies and interests needing to participate in this effort, approximately five representatives will be on this subcommittee.

### **Task 13.1 Evaluate impacts and benefits listed in other IRWM Plans**

In an effort of interregional coordination, the Upper Pit region has offered to share the analysis to be performed of impacts and benefits listed in other IRWM Plans. The Upper Pit consultant will evaluate the techniques, methods, strategies, templates, quantitative and qualitative measurements, and other elements of assessment in IRWM plans across the state. The Lead Consultant will coordinate with the Upper Pit consultant to share this information and bring the analysis to the Impacts and Performance Subcommittee for evaluation for regional appropriateness. The subcommittee will make any necessary updates, additions or changes, before approving the summary. This work will inform the subsequent tasks.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Evaluation of impacts and benefits listed in other IRWM plans.

Timeline: September 1, 2012 – February 1, 2013



### **Task 13.2 Identify impacts and benefits of plan implementation**

The Lead Consultant will work with the subcommittee to develop a process to evaluate the potential impacts and benefits of chosen RMS, objectives and projects. Impacts and benefits will be presented in table form including qualitative, quantitative or both measurements of anticipated impacts and benefits locally and interregionally, and will be reviewed by the CC and RWMG. Methods for continually updating the impacts and benefits section based on project and plan performance data will also be addressed.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Tables of Impacts and Benefits.

Timeline: September 1, 2012 – February 1, 2013

### **Task 13.3 Draft, review, revise & finalize the Impacts and Benefits section**

This process is described in the Work Plan Introduction. It is anticipated that approximately six meetings of the Impacts and Performance Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Impacts and Benefits Section

Timeline: September 1, 2012 – February 1, 2013

## **PLAN AND PROJECT PERFORMANCE AND MONITORING - TASK 14**

The Lead Consultant is responsible for the development of Task 14. The purpose of Plan and Project Performance and Monitoring is to ensure that the RWMG is working towards meeting objectives in the plan, implementing projects listed in the plan, and monitoring the plan and projects to ensure compliance with all applicable rules, laws and permit requirements. This task also allows the region to be flexible and adaptively manage or update the plan when new scientific data and or regional changes alter baseline assumptions or the current understanding of water management. This section will also coordinate with Task 15 (Data Management) to integrate plan and project monitoring data using the data management system.

The neighboring Upper Pit region has offered to coordinate a data exchange with the Upper Sac region in the development of the Upper Sac IRWM Plan and Project Performance and Monitoring section specifically. The Upper Pit region will share appropriate deliverables from their scope of work to assist our region in developing and implementing a standardized and feasible Plan and Project Performance Monitoring protocol for our region. This is an efficient use of time and resources and shows both regions' commitment to developing and sustaining a collaborative process for coordination with neighboring regions. In the case of the development of this section, the regional similarities of being rural, sparsely populated, and disadvantaged make the sharing of this information and scope of work appropriate.

There is a Plan A and Plan B for the development of this section. Plan A is to utilize the regionally appropriate information and deliverables made available to the Upper Sac region by the Upper Pit region and to integrate it into the process for developing the section. In the event that the data exchange with the Upper Pit does not work out for some reason, such as timing of deliverables in relation to the

development of other sections of our plan, Plan B is to follow a similar scope of work as the Upper Pit but to execute it ourselves. In addition, information and analysis from the Climate Change section (Task 11) will be incorporated into this section of the plan.

It is anticipated that approximately six meetings of the Impacts and Performance Subcommittee will be required to accomplish this task. Due to multiple agencies and interests needing to participate in this effort, approximately five representatives will be on this subcommittee.

#### **Task 14.1 Collect and evaluate performance measures from existing IRWM plans**

Plan A: Review and evaluate information collected by Upper Pit region for applicability to the Upper Sac region.

Plan B: Review and evaluate performance measures from similar regions (CABY, North Coast, Upper Sac Valley, etc. for applicability to our region.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Evaluation of performance measures in existing IRWM Plans.

Timeline: September 1, 2012 – February 1, 2013

#### **Task 14.2 Develop initial performance measures for IRWM Plan implementation**

The Lead Consultant will work with the subcommittee to draft a process for the development of performance measures for plan implementation. The process will be reviewed by the CC and taken to the RWMG for their review.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Draft performance measures for plan implementation.

Timeline: September 1, 2012 – February 1, 2013

#### **Task 14.3 Develop initial performance measures and monitoring protocols for project implementation**

The Lead Consultant will work with the subcommittee to draft a process for the development of performance measures and monitoring protocols for project implementation. The process will be reviewed by the CC and taken to the RWMG for their review.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Draft performance measures and monitoring protocols for project implementation.

Timeline: September 1, 2012 – February 1, 2013

#### **Task 14.4 Finalize performance measures for both plan and project implementation**

The RWMG will provide input on the first drafts of performance measures for plan and project implementation.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Final performance measures.

Timeline: September 1, 2012 – February 1, 2013

#### **Task 14.5 Develop, review, revise & finalize Performance and Monitoring section**

This process is described in the Work Plan Introduction. It is anticipated that approximately six meetings of Impacts and Performance Subcommittee will be required to finalize this section.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Plan and Project Performance and Monitoring Section

Timeline: September 1, 2012 – March 1, 2013

### **DATA MANAGEMENT & INTEGRATION - TASK 15**

Data under this task includes technical information such as designs, feasibility studies, reports, and information gathered for a specific project in any phase of development including the planning, design, construction, operation or monitoring of a project. The region's plan will define a process to compile, store and disseminate such data via a Data Management System (DMS). Additionally, the process and procedures necessary to ensure data compatibility and integration will be developed as part of the plan. Recommendations from regions that have already completed this process should assist the Lead Consultant in addressing this task efficiently.

#### **Task 15.1 Develop Process for Data Collection**

The Lead Consultant will propose to the RWMG the most efficient and effective process for data collection, based on the experience of similar regions with DACs. The plan will include an overview of the region's data needs and describe typical data collection techniques. Stakeholders will be asked to contribute data to the DMS and that process will be outlined in the plan. The process will ensure data from water management programs and projects in the California Water Plan in addition to those identified by RWQCB and DWR are included in the plan. It is the responsibility of the RWMG to determine the best process for project data collection in the region. Generation of actual feasibility studies, plans, etc. will occur under Task 12. The process will ensure data integration and sharing with existing state databases.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: DMS Approved by RWMG

Timeline: June 1, 2011 – August 1, 2011; This requirement needs to be initiated within the first few months of the planning effort so the status of specific projects can be considered as the region's issues and objectives are being identified.

## **Task 15.2 Determine Data Storage and Dissemination System**

The Lead Consultant will bring to the RWMG, suggestions of integrated systems to store, manage and disseminate data using a DMS. The suggestions will most likely be based on what works best for similar regions with DACs. The RWMG will determine what solution will work best for the region. Some potential solutions to address data storage and dissemination could be posting to a regional database (e.g. SWIM), or developing a website or web portal. Due to its cost effectiveness, potential capacity and accessibility - a web portal may be the best solution. The decision will be made by the RWMG.

It is planned that the same data storage and dissemination system that is selected to achieve electronic sharing of information in Task 3 Stakeholder/Institutional Involvement & Integration will also be used to achieve this subtask - which would create an extremely efficient, integrated and accessible system. Data will be available to IRWM participants, stakeholders, agencies and the public via a web portal (or something similar). The RWMG will define the protocol for proprietary data that might require password protection or a direct request to the data provider. Development and maintenance of the data sharing portal is described in Task 3.6. The intention is for a webmaster to initially setup the portal to include data sharing via the DMS in an easy to update user interface, including detailed instructions. With this approach, ongoing web costs can be minimized and data can be uploaded by the entity providing the data. The DMS will then be able to allow the RWMG to share collected data for years to come. The integrated system will ensure efficiency, sharing of the most up-to-date data, and useful information being made available to interested parties. The RWMG will designate an entity to be responsible for maintaining the data in the DMS for at least the minimum timeframe required by the grant.

Any new research performed in support of plan development, will adhere to USEPA QA/QC procedures and the consultants will be responsible for verifying the level of QA/QC for any outside data used in support of plan development, selecting data from reliable sources, and making data reliability transparent in the plan wherever that data is used. The consultants will be required to perform proper QA/QC (as defined by the USEPA guidelines) on any data they collect, and to investigate and make transparent in the plan the QA/QC standards for any data that they use, giving preference to data with higher standards.

Budget estimate: The budget for this is included in Task 3.

Deliverables: DMS Available via Web.

Timeline: March 17, 2011 – March 17, 2012; This task should occur concurrently with the electronic sharing of information with stakeholders as part of Task 3.6.

## **Task 15.3 Develop Process & Procedure to Ensure Data Compatibility & Integration**

The Lead Consultant should propose to the RWMG the best approach to ensure data compatibility and integration. The process and procedures required to achieve compatibility and integration of the region's project data should be straightforward to define.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Process & Procedures Adopted by the RWMG.

Timeline: June 2011 – August 2011; This subtask can be addressed concurrently with Task 15.1 and in conjunction with Task 3.6.

#### **Task 15.4 Develop, review, revise & finalize Data Management & Integration section**

This process is described in the Work Plan Introduction.

Budget estimate: The budget is included in Tasks 2, 3, 4 & 18.

Deliverables: Finalized Data Management Section

Timeline: March 17, 2011 – May 17, 2012

#### **FINANCE - TASK 16**

This extremely important section of the plan will identify the means by which the region will finance the ongoing development of the region's plan, implementation of projects and programs, plus the operation and maintenance costs (O&M) of projects that implement the plan. Due to the number of regional entities needing to contribute specific details to accomplish the finance section of the region's plan, the RWMG will designate a subcommittee of approximately six representatives to assist with this work. It is anticipated that approximately eight meetings of the Finance Subcommittee will be required to finalize this section. The Finance Subcommittee will designate a representative to report regularly to the Coordinating Committee (CC) regarding their work.

##### **Task 16.1 Research available funding sources**

To conduct this research, the Lead Consultant will provide a specialist who is very familiar with water-related planning and implementation funding sources. The Finance Subcommittee will provide an initial list of funding sources that they are aware of for the consultant to research, updating the list as new information on potential sources becomes available. Additionally, the subcommittee will meet and work with the consultant to compile funding sources, programs and grant opportunities 1) that can be used to fund further development of the IRWM Plan (beyond this grant application) and 2) that can be applied to implement the projects identified in the plan. They will also work together to identify existing funding mechanisms used by regional city and county governments and private utilities to fund water infrastructure improvements in addition to operating and maintenance costs. A table will be developed by the consultant to summarize the certainty and longevity of known and potential funding sources for the ongoing development and funding of the IRWM Plan, projects that implement the plan, and O&M of projects that implement the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Summary of Known & Potential Funding Sources.

Timeline: March 1, 2011 – June 1, 2011; This research should be accomplished at the outset of the planning process, since the extent of the regional resource deficit, relative to identified needs, will be critical for describing the region's issues.

##### **Task 16.2 Develop Fundraising and Financing Plan**

The Lead Consultant and Finance Subcommittee will work together to develop a Fundraising and Financing Plan for implementation and financing of projects and programs identified in the IRWM Plan. They will determine the possibility of developing new funding mechanisms for the ongoing development of the region's plan. Additionally, they will identify means to fund projects that implement the plan, including but not limited to water enterprise funds, rate structures, and private financing options. To

show the sustainability of proposed implementation projects, the subcommittee will identify funding sources that can be used to cover the O&M costs of projects that implement the plan. The Fundraising and Financing Plan will also include the certainty and longevity of known or potential funding for future updates of the IRWM Plan, projects that implement the plan, and O&M.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Fundraising & Financing Plan.

Timeline: March 1, 2012 – November 1, 2012; The Fundraising & Financing Plan will take approximately eight months to develop and needs to occur after both identifying existing funding sources (Task 16.1) and after the development of the initial list of implementation projects anticipated to be included in the region's plan (Task 12).

### **Task 16.3 Develop, review, revise & finalize Finance section**

This process is described in the Work Plan Introduction.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Finance Section

Timeline: March 1, 2010 – March 1, 2012

## **TECHNICAL ANALYSIS - TASK 17**

The region's plan will be based on sound technical analyses, information, and methods required for the RWMG to understand the water management needs of the region at least twenty years into the future. The adequacy of the data and technical analyses used will also be evaluated and summarized in the plan. This effort will be tied to Task 6.1 in relation to identification of data gaps.

### **Task 17.1 Document the data and technical analyses that were used to develop the plan**

Approximately June of 2011, the RWMG will be asked to share all data and technical analyses considered useful in the development of the plan. Data sources may include (but will not be limited to) scientific studies and research, historical records, monitoring activities, and investigations. The technical information and literature reviewed during IRWM Plan development need not be included in the plan; instead the plan will describe the references and provide brief descriptions. A table similar to Table 6 on pg. 60 of the IRWM Guidelines will be generated by the Lead Consultant. It will contain details about the studies/data such as: the name of the data or study, analysis method(s) used, derived information, the use or relevance in the IRWM Plan, and the source. A bibliography will also be generated for the data and technical analyses used in the plan. The plan will identify data gaps where additional monitoring or studies are needed and will describe how the plan will help bridge the data gaps. The Lead Consultant will be responsible for documenting the data and technical analyses that are ultimately used to develop the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Table of Studies/Data and Bibliography Created.

Timeline: June 1, 2011 – December 1, 2011; Six months into plan development, the data and technical analyses being used for the plan should be identified; therefore, the Lead Consultant can create the summary table. The bibliography can also be developed by the Lead Consultant at that same time, although both the summary table and bibliography will need to be finalized before the plan is adopted.

### **Task 17.2 Evaluate adequacy of data and technical analyses that were used to develop the plan**

To ensure adequacy of the data and technical analyses, the QA/QC standard in Data Management (Task 15), will be met for the data and technical analyses used to develop the plan. In addition, the Lead Consultant will be responsible for evaluating the adequacy of the data and technical analyses used to develop the plan. The highest quality data available will be used in all cases, and selection of appropriate analyses and supporting data will be performed based on the best available science and managed by the Lead Consultant with oversight from the RWMG. To facilitate this oversight, the Lead Consultant will provide justification for analyses to the RWMG, along with QA/QC information on the supporting data. In addition, the Lead Consultant will be responsible for conducting QA/QC for all technical analyses performed over the course of plan development (see Task 15). The Lead Consultant will provide a brief description of the adequacy of the technical information, including a) description, b) scope, c) the degree to which it represents or addresses both current and, past/ historic conditions, or forecasts potential future scenarios, and d) justification for use and discussion of appropriateness for the given application. This will be captured in the table being generated under Task 17.1, as a field labeled ‘use or relevance in the IRWM Plan’.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Finalize Table or Studies/Data Sets.

Timeline: June 1, 2011 – December 1, 2011; This will occur simultaneously with Task 17.1.

### **Task 17.3 Develop, review, revise & finalize Technical Analysis section**

This process is described in the Work Plan Introduction.

Budget estimate: The budget is included in tasks 2, 3, 4 & 18.

Deliverables: Finalized Technical Analysis Section

Timeline: June 1, 2011 – March 1, 2012

### **Prepare IRWM Plan Document - TASK 18**

The Upper Sac RWMG recognizes the need to create an integrated and collaborative framework to address water-related issues and attain local, regional and statewide objectives related to integrated water management. The IRWM Plan will address this need. By finalizing each section of the plan as it is developed, the group will have useful deliverables throughout the two-year planning grant period. This approach will allow a final plan to be made available by integrating the completed sections. Since the region has experienced several divisive struggles over major water issues in the last ten years, there may be some hurdles to overcome before the RWMG adopts the plan. For this reason, it is expected that the IRWM Plan may not be adopted by the RWMG within the two-year grant period. The RWMG realizes the importance of adopting the region’s plan and will strive to accomplish adoption as soon as possible.

### **Task 18.1 Prepare Draft of IRWM Plan**

Since the RWMG will develop plan content progressively, preparation of the IRWM Plan will be initiated on day one of the planning process, beginning with governance structure. For all tasks, the designated Lead Consultant or Project Director, depending on the specific task, will be responsible for authoring each task section. The designated section author will attend the appropriate subcommittee and CC meetings. Prior to the first CC meeting, the authors will develop writing guidelines to ensure consistent voice, style, structure, etc. in the different sections of the document. This will allow the plan to be finalized more efficiently, once all the sections are written.

Initially, the designee will bullet the aspects deemed by meeting participants to be necessary for inclusion in the plan – based on the IRWM Guidelines. The task author will expand the bulleted list into an outline and expand the outline based on CC and applicable subcommittee discussions. It is imagined that drafting content as the aspects are discussed will help resolve disputes early in the process. Once all aspects of a specific task have been addressed, the author will write the first draft of the section. The subcommittee (if applicable) will approve the draft for review by the Coordinating Committee, who will review the section for technical accuracy and confirm that the content gathered meets all of the IRWM plan standards for the section. The section will then be reviewed by the public and by the RWMG, who will solicit input from the stakeholders they represent. The section author will incorporate feedback. The final step will be approval of the finalized plan section by the RWMG. By developing the plan in sections that are approved as finalized, there will be a much higher likelihood of the RWMG adopting the plan within the two-year planning period.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Draft of Each Task in the IRWM Plan.

Timeline: March 17, 2011 – January 17, 2013; Plan preparation will begin immediately, with each section being developed progressively.

### **Task 18.2 Finalize IRWM Plan**

The Lead Consultant is responsible for not only authoring the sections listed as their responsibility, but also pulling all the sections into one document. This will include details such as ensuring one voice throughout the document, developing tables, editing for consistency, etc. Even though each task that is finalized for the plan will be useful, the RWMG has the ultimate goal of finalizing and adopting the IRWM Plan. The region intends to reach agreement regarding the regional projects and programs that will be included in the plan.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Finalized IRWM Plan

Timeline: January 18, 2013 – March 17, 2013; The Final Plan can be edited and compiled as each task section is approved. Once all the sections are approved by the RWMG, the Final Plan can be assembled and edited for consistency.



### **Task 18.3 Attempt to Adopt IRWM Plan**

Due to the potential challenges faced by our region to reach agreement on Governance and Project Review, it may not be possible to finalize the plan in only two years. The anticipated adoption date of the IRWM Plan is approximately June 30, 2013.

Budget estimate: The budget is included in Task 2.2.1 under the responsibility of the Lead Consultant.

Deliverables: Adopted IRWM Plan, if agreement can be reached.

Timeline: March 17, 2013 – June 30, 2013